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THE UNIVERSITY OF ALBERTA

DIFFERENTIAL VALUES, BELIEFS AND CONCERNS
OF ACHIEVING AND UNDERACHIEVING
HIGH SCHOOL STUDENTS

by



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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled, "Differential Values, Beliefs, and Concerns of Achieving and Underachieving High School Students" submitted by Haidee Patricia MacLellan in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Counselling Psychology.

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ABSTRACT

The present study was directed to identifying the concerns, values and beliefs of 160 achieving and underachieving Roman Catholic students of above average intelligence in grades nine and twelve enrolled in the university preparatory stream.

The design of the research contained three factors - Achievement, Sex, and Grade, with two levels for each factor. The Youth Research Survey, a self-report instrument developed at the Search Institute in Minnesota was the principal instrument used in the study.

Of the twenty-two scales which were included in the study, three scales - Parental Understanding, God Relationship and Interest in Help - failed to yield significant F for any one of the six effects examined. On eight scales, no interaction was found but one or more main effects were significant. These scales were: Life Partner, Personal Faults, Orientation for Change, Moral Responsibility, Meaningful Life, Religious Participation, Self-Regard and God Awareness.

For the remaining ten scales, interactions occurred between at least two of the three factors. AB interaction (achievement and sex) occurred on Family Pressures and Lack of Self-Confidence. AC interaction (achievement and grade) occurred on Family Unity, Lack of Self-Confidence, Academic Problems, Classroom Relationships and Biblical Concepts. BC interaction (sex and grade) occurred on National Issues, Maturity of Values, Social Action and Human Relations. Wherever there were significant interactions, simple main effects were examined.

Significant effects have been suitably examined and interpreted, specially from the point of view of a counsellor.

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CHAPTER I

THE PROBLEM

Concerns, values and beliefs hold an important place in the lives of all people and are crucial in the changing world of the adolescent. This fact cannot be lost on parents and school personnel whose work is so intimately involved with young people. Concerns, values and beliefs are crucial to personal development and the problems that may arise in such development are serious. This is particularly true for the growing adolescent. The problem for the school in general and the school counsellor in particular is recognizing them and dealing with them adequately.

The increasing popularity of developmental theories in psychology and education and the growing complexity of both personal and public issues have promoted a vastly accelerated interest in the influence of a value orientation on the personal development of the individual and, therefore, of the responsibility of schoolmen to study such influences. Until recently, confronting value-laden issues in schools was questioned and even opposed (Allport, 1961; Newman, 1970). Today school systems are stressing the importance of, and need for, education in values for personal development of adolescents (Burnham, 1975; Crossley, 1975; Jones, 1969; Kohlberg, 1974; Meyer, 1975; Mosher & Sprinthall, 1971; Riles, 1974; Shaver & Larkins, 1969). Martin Katz (1963) said that the single most synthesizing element in a young person's life is that individual's value system

including his concerns and beliefs. Further, although for over seventy years, psychologists have studied the child and his problems, such difficulties, especially those dealing with school, have been attributed primarily to emotional disturbance or low I.Q. The question arises of the importance of values or lack of them (Mitchell, 1972; Raths, Harmin, & Simon, 1966; Strommen & Gupta, 1972) in the development of children and their problems. Raths et al. (1966) identified children who have disturbances and school problems which were found to be related to deficiencies in their value system. They stated that educators have long been perplexed about how to deal with students who do not seem to be motivated to learn in school and a feverish amount of activity has been generated by this problem of underachievement. Of the many remedies proposed, Raths et al. (1966) suggested that few seemed to offer as much as did value theory. They intimated that a good part of the difficulty of "problem" students seemed to stem from not feeling a real part of the society that ran the school and rewarded school achievement. They seemed to sense a real need in young people to think through their lives and establish a set of values for themselves. They believed that students should have the opportunity within the school system to do this. This opportunity should be a vital part of any school program and might, in fact, be the crucial element in increasing adolescents' personal and social productivity not only within the school but within the community as a whole.

Almost twenty years ago, Gowan (1959) concluded that the day was passing for examining achievement from the basis of psychological differences in individual development and the beginning of

an era in which research would be concerned mainly with the societal and cultural values and beliefs in which any development takes place. He also emphasized the importance of the need structure reflected by the individual's concerns as integral to such a study. Strommen (1963), and Strommen and Gupta (1972) also saw the lack of satisfaction of one's need structure as basic to youth's problems. They said there are some needs which are basic and these needs are reflected in the concerns and values of youth. Accepting this theoretical base, it seems timely and even urgent to examine the value patterns of adolescents, specifically of achieving and underachieving students, in the light of their expressed concerns, values and beliefs. The problem of the underachieving is a perennial one and seems to be growing. To date, although an enormous amount of research has been done on underachievement, research does not seem to have attempted to focus on the underachieving bright student's value system in terms of his expressed concerns, values and beliefs.

Milton Rokeach (1971) said that the educational institutions in a democratic society have a dual mission: on the one hand to transmit the hard-won knowledge acquired by one generation to succeeding generations and, on the other, to transmit certain values from one generation to the next. These two functions are highly inter-related. It is to be hoped that the inculcation of certain kinds of values will facilitate the acquisition of knowledge and, at the same time, encourage each succeeding generation to modify, add and extend that knowledge. With the acquisition of a solid basis of values and beliefs, a more mature adolescent should gradually reduce the frustration and powerlessness he feels over those things which

concern him most. It is also hoped that an educational institution's concern with the transmission of values and knowledge is in the service of the student's personal growth, competence and self-actualization. The present study addresses itself to this aim. It is hoped that the knowledge gained from the results of this study will provide a direction towards more adequate counselling and curriculum development.

Two further points are integral to the proposed study. First, although there are universal values, the values of youth are uniquely developed in his particular environment and can most efficaciously be studied in this environment (Benedict, 1935; Harding, 1966; Linton, 1947; Mead, 1935; Thompson, 1950). Secondly, the concept of under-achievement here is not meant to indicate an isolated phenomenon but a chronic characteristic found in the individual's lifestyle which has been shaped by various cultural factors including home, church, school (Broedel, Ohlsen, Proff, and Southard, 1960; Hurlock, 1966; Shaw and Brown, 1957; Shaw and McCuen, 1960).

The Importance of Values in Education

Modern counselling has largely been concerned with unravelling the effects of behavior and individual differences during various phases of development. There seems to be little doubt (Harding, 1968) that ingrained expectations about social life and established ways of adjustment to other people can usually be traced back to childhood. It goes without saying that a person's scale of values is immensely influenced by the traditions and values of his social group (Benedict,

1935; Linton, 1947; Mead, 1935: and Thompson, 1950). But there have always been people who differed from their social group in evaluating one or other aspect of their experience and these are often individuals who take their individual experience seriously. The adolescent is one group of such people. He may or may not find that his experience confirms the established values of his group (Harding, 1966). This has been abundantly evident for adolescents (Coleman, 1961; Friedenberg, 1959; Friesen, 1966, 1968, 1969; and Peterson, 1970). Modern educators (Burnham, 1975; Crossley, 1975; Meyer, 1975) question a system where values have been relegated to a modelling role rather than an integral part of the educational system including curriculum and counselling. Hurlock (1966), Mitchell (1972), Rath et al. (1966) have pointed out that value discrepancy may be a cause of problems in adolescence. The two former writers have linked school problems, specifically underachievement, to a lack of values in youth. Strommen and Gupta (1972) in their rationale for their Youth Survey see two needs - mutuality and mission as basic to a youth's well-being and see these needs as being reflected in his concerns.

Although until recently, values in counselling have remained largely implicit, it is now almost universally accepted that values be made explicit (Allport, 1953; Maslow, 1957; Peterson, 1970; Sorenson, 1965; Williamson, 1966). This list mentions only a few but The Counselling Psychologist devoted a whole volume to this question with the principal presentation by White (1972). If values are really so important and crucial to personal and social development, the worthwhileness of the knowledge gained in this study lies in the contribution towards isolating specific concerns, values and beliefs of one

of the perennial groups of young people who have school difficulties. Such knowledge can be of substantial use to administrators and counsellors in curriculum development and counselling.

The Significance of the Problem

In Canada today, as in Western society in general, one's future socio-economic status, advancement in occupational levels and even personal prestige are often directly proportional to one's level of education. Indeed, education is one of the surest ladders to success in both the social and economic spheres. Apart from these realistic, though probably mundane, considerations, education is primarily for personal fulfillment. In our society, educational opportunities abound, our school systems are better equipped and staffed than ever before, text books are available, transportation is supplied, and educational achievement is prized and amply rewarded by society. Yet, with all these social, cultural and educational advantages, many of our truly able students are not producing the quality of work of which they are capable. In fact, Hurlock (1966) said they produced mediocre work and contended that the problem was increasing!

There is ample evidence that far too many American adolescents of today whose hereditary endowments and cultural advantages would normally lead to high achievements are turning into second-rate students. (p. 19.)

This loss in intellectual potential has made underachievement (Chabassol, 1959; Hurlock, 1966) one of the most serious problems with which school administrators, teachers, counsellors and parents must cope. In fact, in a society where specialization and technology require highly trained people with a matching decline in the demand for unskilled labor, the necessity for adequate scholastic achievement

becomes imperative. The problem has been examined by previous researchers from many points of view. Personality factors and environmental factors have been investigated as correlates of underachievement and the research available in this area has been extensive. Underachievers have been shown to come from generally low socioeconomic environments (Chabassol, 1959; Kornrich, 1965). Underachievers' parents usually do not value education highly and are less educated than the parents of achievers (Brown and Dubois, 1964; Makler and Giddings, 1965; Sewell and Shaw, 1968) and they demand less of their children (Crandall et al. 1964 Winterbottom, 1958). Ethnic origin (McClelland et al., 1958; Rosen, 1959; Werner et al., 1968) and religious affiliation have also been established as correlates of achievement and underachievement.

Underachievement has been found to be more dominant in males than in females (Flanagan, 1964; Ford, 1957; Miller, 1962) and occurs in the earliest grades with boys while with the girls it shows up in late elementary or junior high school (Shaw and McCuen, 1960).

Underachievers seem to exhibit certain less desirable personal traits than do achievers. They are more rigid (Davids, 1968) and less tolerant of themselves and others (Alves, 1960; Kurtz and Swenson, 1951; Mason, 1958); they tend to be less mature (Kisch, 1968; Smith, 1965; Wellington and Wellington, 1965); and they indicate more feelings of hostility (Chabassol, 1959; Miller, 1962). Some researchers have indicated that underachievers are socially more involved than achievers (Bishton, 1957; Kisch, 1968) but this has been interpreted to be time taken from school work (Durr and Schmatz,

1964; Taylor, 1964). Underachievers seek social acceptance as an ego-builder (Kisch, 1968) as they seem to depend on others for their attitudes and values (Chabassol, 1959; McKenzie, 1964) whereas achievers are most independent (Bishton, 1957; Gough, 1953). Family relationships are poorer and feelings of rejection are stronger among underachievers (Chabassol, 1959, Combs, 1965; Gowan and Demos, 1968) and underachievers exhibit poor study habits (Kisch, 1968). Briefly then, underachievement has been found to have a wide variety of personality and environmental correlates. But perhaps the area which is influencing the adolescent most is value orientation (Gown, 1959; Newman, 1970; Rath et al., 1966). This integral part of his growth which is reflected in his total development has had little scientific examination as Kerlinger (1973) pointed out even though values are a large part of man's verbal output and probably very influential determiners of his behavior.

Youth today (Barr, 1971) are different not because of any particular attribute but because of the powerful pressures of the contemporary age that surround them with a constantly increasing range and variety of cultural alternatives and value choices. Youth are faced with complexities regarding their vocations, life-style, aesthetic interests, religions, schools, leisure, forms of dissent and even self-identity. To complicate matters even further, the cultural alternatives and value options often conflict with the traditional values of our society, creating difficult dilemmas within youth and often between youth and their parents, their teachers, their religious leaders. Caught in a culture cluttered with alternatives and value options, and often with little basis to guide decisions, youth may accept values that are inconsistent and even in conflict. As youth

incorporate these inconsistencies into their own value systems they internalize the conflict and the result is personal confusion and insecurity. This frustration is frequently reflected on school problems - inattention, underachievement, dropping out.

In former years (Barr, 1971) diverse ideas, beliefs and behavior were fairly isolated and rare. Individuals found security in the community values. Alternative values lacked persuasiveness and were shunned. Lack of mobility led to strong community norms and beliefs in absolutes, so that, as youth matured, they readily accepted adult standards. Today young people are highly influenced by the mass media and their peers and thus new values emerge. If administrators are to deal adequately with youth, they must know them. And knowing them means knowing what youth says it is concerned about, what youth says it believes, what youth says it values. Having this knowledge can provide administrators and counsellors with a starting point for providing the kinds of experiences through new or modified programs and counselling that will help develop consistent and lasting values.

The present study is directed to one particular problematic area in the school system - underachievement. The study proposes to investigate the concerns, values and beliefs of achieving and under-achieving high ability junior and senior highschool students.

Included in the research is an examination of the concerns, values and beliefs of male and female subjects and grades nine and twelve subjects. The purpose of such an investigation in a particular school system is to determine if real differences exist in the value systems of the achieving and underachieving students in general and from the point of view of the grade level and sex of these students.

If real differences were found, it was hoped that from the information gained, a realistic approach to dealing with the problem of underachievement might be developed - an approach which would include improved curriculum and counselling techniques. This would help to avoid the loss resulting from underachievement which affects the individual concerned, the schools producing such underachievers, and the society into which such underachievers will go.

CHAPTER II

REVIEW OF SELECTED LITERATURE

Toward a Definition of Values

Recher (1969) says that subscription to a value is a two-sided affair and value imputations have a double aspect - verbal and behavioral. On the basis of this premise, he posits two major avenues of approach to the analysis of the value pattern of a person as of a society. He points out that the tools of inquiry can be shaped with a view to either of these two principal ways in which values manifest themselves and, therefore, researchers can seek to determine values from either of these directions. Values, to Recher, are intangibles or things of the mind that have to do with the vision people have of the "good life" for themselves and others but values may also manifest themselves concretely in the way in which people behave.

Cotton (1959) sees a value as conception of the desirable which is implied by a set of preferential responses to symbolic desiderata. This definition assumes that valuing includes actions which indicate a person's intensity of desire for desiderata and amount of motivation to pursue these desiderata. Adler (1957) also sees values from the behavioral point of view. He reduces values to four basic kinds - as absolute, as being inherent in objects, as present in the biological needs of the mind of man and as identical with the actions of man. He concludes that what people do is the only thing that can really be known of these values. Aberle (1950) agrees with this position also. He maintains that the analysis of value systems alone is insufficient for social analysis. His contention is that value

considerations must be related to roles, role systems and role behavior.

Charles Morris (1956) in Varieties of Human Values delineated the approaches to values culminating in a pro-behavioral stance. He points out that at times the term "value" is employed to refer to the tendencies or dispositions of living beings to prefer one kind of object rather than another. He calls them "operative values". At other times the term "value" is restricted to those cases of preferential behavior directed by "an anticipation or foresight of the outcome of such a behavior". He calls these "conceived values". A third kind of value is concerned with what is preferable or desirable regardless of whether it is in fact preferred or conceived as preferable and he calls these "object values". He expresses value with respect to some form of the verb "prefer":

1. value as preferred
2. value as a conception of the preferable
3. value as preferable.

He explains that the main contrast is between preferred and preferable (desired and desirable, valued and valuable, esteemed and estimable). What is preferred (operative values) can be found through a study of preferential behavior. What is conceived to be preferable (conceived values) can be studied through the symbols employed in preferential behavior and the preferential behavior directed toward the symbols. He conjectures that if, then, it could be shown that while the preferable is not identical with the preferred (the "ought" not identical with the "is") it still cannot be defined without relation to preference, then all three usages of "value" would have in common a reference to preferential behavior. Preferential

behavior would then define the value field, and the various employments of the term "value" would be explicated not as preferring to different entities but as delineating different aspects of the value field. To the extent that this could be done, axiology would, as a science of preferential behavior, become part of the science of behavior.

Carl Rogers (1969) employs the gerund form of the word valuing and defines it as a tendency of a person to show preference. Rath, Harmin and Simon (1966) also prefer this form and see valuing as a process and values as general guides to behavior that come out of life experiences and tend to give direction to life. Coughlan (1969) says that values which have been viewed in a millenium of ways are, in his opinion, inherent in objects, present in man and/or identical with his behavior. Hall (1973) also sees values from the behavioral point of view. He defines a value as something that is freely chosen from alternatives and acted upon, that which the individual celebrates as being part of his creative integration in development as a person. He says the essentials of his definition are that values are freely chosen from alternatives, acted upon and lived out.

Sometimes values are in conflict in our society and will (Richie, 1963) continue to be so. This conflict, Richie points out, is the mark of a changing society and this is taking place at such an accelerating pace that systems of thought and belief about values have hardly kept up. He points out that it is less a question of doing away with fundamental values, which have been evolved laboriously over the centuries, than of seeing them in new dimensions, of working out their meanings in the light of a new society and new knowledge, both

of much greater magnitude and complexity than in former times.

Other writers see values from a more global aspect. Newcomb, Turner and Converse (1965) view values in an hierarchial structure with drives, motives and attitudes leading up to values. Pepper (1958) assumes a very general definition of value, choosing to consider values as anything which, in and of itself, is of interest. Ruesch (1957) suggests that four kinds of values may be found in any culture: those which include the concept of preferential behavior, the concept of being esteemed or desired, the concept of appropriateness and the concept of the cost of whatever is valued. Bateson (1956) had a global view of values, seeing them as the tools man uses in continually simplifying, organizing and generalizing his own view of the environment and of imposing his own constructions and meanings on his environment according to what he values. Murray (1963) regards attitudes and values as basically the same entities when he says that each is a relatively permanent disposition by which people evaluate things.

Jules Henry (1963) defines values as something we consider good, such as "love, kindness, quietness, contentment, fun, honesty, decency, relaxation, simplicity."

Jacob, Flink and Schurman (1962), in outlining various approaches to values and value concepts, say that Moore suggested they are undefinable; that Percy suggested values are objects of interest; that Stephenson saw them as a means of exhorting people to moral virtue; that Angell suggested they are lasting preferences for the way in which the social dimension of the world is structured and operated; that Lasswell and Kaplin saw them as goal events and

that Dewey suggested they are immediate goals.

In reviewing the literature on the interpretation of values, Florence Kluckhohn (1960) saw similarities in the interpretation of what basic values are and the differences among some writers as being one of semantics. She noted several of these. Clyde Kluckhohn called them "configurations", Opler called them, "culture themes", Sapir called them "unconscious systems of meanings", Thompson called them "core culture" and Redfield called them "world view". Florence Kluckhohn herself called them "the central core of beings". The operational definition she presented was:

Value orientations are complex but definitely patterned (rank ordered) principles, resulting from transitional interplay of three analytically distinguished elements in the evaluative process - the cognitive, the affective and the directive elements - which give order and direction to the ever-flowing stream of human acts and thought as these relate to the solution of common human problems. (p. 4.)

Kluckhohn's theory rested on the assumptions that there are common human problems in all cultures, that the solution of these problems falls within a limited range and are not necessarily mutually exclusive but alternative solutions have different hierarchial positions in different cultures. Florence Kluckhohn presented an elaborate paradigm of values and value orientations and their variations in her penetrating study of values.

Clyde Kluckhohn (1959) pointed out that the literature on values in the various fields of learning is ambivalent in that values are sometimes considered as attitudes, motivations, objects, measurable quantities, substantial areas of behavior, affect-laden customs or traditions and relationships. He stressed that the only general agreement on the subject seems to be that values have to do with

normative as opposed to existential propositions. Kluckhohn differentiated among attitudes, beliefs, ideals, needs and drives. Values, he said are distinguished from ideals in that concept of the latter did not imply selection; from beliefs in that needs both cause and are caused by values; from drives in that drives are independent to some extent of group values; and, finally, from attitudes, in that the concept of attitude includes an exclusive reference to the individual and the absence of the necessary idea of the desirable. Kluckhohn emphasized that attitudes include a concept of preparedness to act, beliefs are on a one-or-the-other continuum but values are clearly distinct from either by the inclusion of the concept of their being the preferable and, therefore, the desirable, and of the individual's commitment to them.

Kluckhohn (1959) arrived at an operational definition of values:

A value is a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable, which influences the selection from available modes, means and ends of action. (p. 395)

Kluckhohn emphasized this theory that values are those things which are desirable, that is, what is felt to be the correct thing for an individual or group to do. For purposes of the proposed study, a concept of values from a conceptual or verbal rather than a behavioral aspect will be understood. The definition of Clyde Kluckhohn (1959) was considered adequate and basic in the study.

Selected Readings on Adolescent Concerns, Values and Beliefs

The following readings are diverse and wide ranging. They are drawn from the vast literature extant on adolescents values and the purpose of isolating these few studies is to point up the many variables which have been found to be significant to the development of a value system for young people and of drawing the conclusion that a study of adolescents' concerns, values and beliefs in order to be meaningful ought to be a sample as close as possible to the population. This would be in accord with the trends of F. Kluckhohn (1960) and Brawer (1971) that values have different places in the value hierarchies of different cultures and that more specific a particular value is, the closer it is to the individual.

Concerns

Adolescence was referred to (Harms, 1976) as the period of human life in which most aspects of human existence come into active participation in every area of living and growing. It is the period, he stated, when there occurs the greatest development of individuality, personality, and sex maturation, and the greatest changes in family relationships, with the individual coming out from under parental control. During this period, the first steps towards personal, social, racial and political contacts outside the home are made and the most intensive formation of mental and spiritual orientation begins. He also added that among these changes and developments there is the beginning of many problems and conflicts which form the basis for

real concerns to adolescents. The concerns centre primarily with parents, teachers and peers.

Schmuck (1965) pointed this out when he said that young people, though generally happy and healthy, do have realistic concerns which often keep them from fully realizing their potentialities. He said they were concerned with making sense out of the multiple demands of parents, teachers and peers while trying to become autonomous and integrated individuals. He indicated that to adolescents, parents were the most significant figures in their lives and the confidants to which every important decision was referred. Schmuck (1965) organized the concerns with parents which adolescents expressed, into four general categories. Adolescents were concerned because parents did not discuss with them what these young people considered important. The adolescents' concern here was that no accurate communication nor genuine empathy existed between them and their parents. Secondly, adolescents were concerned about their privacy, feeling that parents demand to know too much of their thoughts and activities and thus created a problem of trust. Thirdly, young people were also concerned about the restrictive dating patterns placed on them by parents. And finally, adolescents were concerned about their lack of respect for, and trust in, their parents. The most frequent concern in this regard involved the integrity, trustworthiness and forthrightness of their parents. Boys particularly saw their parents as saying one thing but doing another.

In describing a project headed by them to produce a new concept in curriculum which would directly and systematically affect the personality development of adolescents, Mosher and Sprinthall (1971)

noted some of the major concerns of youth. They pointed out that adolescents in our western culture are confronted with major problems of personal development. High school drop-out rates, low academic achievement, drug usage among teenagers and personal alienations are some examples of their concerns. These young people were concerned about their own place in a society that deliberately made the adolescent a "marginal man" denying him adult status and responsibility.

Adams and Looft (1977) also saw this same quandry in dealing with youth. Youth, they said was seriously concerned about coping with the dichotomy of a society that required that youth grow up and put off childish behavior and a school system which demanded that youth remain in a submissive, passive and non-rewarding role of the student-child. These writers expressed the concerns of adolescents in terms of developmental components: the acquisition of sex-appropriate role behavior, achievement of a sense of identity and a personal commitment to some ideology, set of values, occupation or life style.

Parsons (1962) has shown that youth has sometimes embarrassed the adult world by their sincerity and honesty, for, he claimed, the most significant factor about youth was its concern for real meaningfulness. Distler (1968) agreed with this position. He pointed out that this concern of youth may be seen as a shift from a patristic (instrumental) life-style to a matristic (expressive) life-style not easily accepted by the adult world. Myerhoft's (1969) "New Man" seemed to identify this same concern of youth for finding real meaning in his world.

Schmuck (1965) said that after parents, teachers were the most common group of people with whom adolescents had serious concerns.

He grouped these concerns into three major groups. Adolescents were concerned about teachers not getting to know students. They indicated that there was a lack of intimacy and personal contact. This seemed to indicate that these young people were asking for consideration and respect as people. Secondly, adolescents were concerned that teachers lacked interest in teaching and in their students and that there were inconsistencies in what they said and what they did. Finally, adolescents were concerned about teachers who showed partiality for certain students. These concerns are not new but they are very real especially to young people who are still idealistic and impressionable.

In his discussion project with high school students, Fisher (1976) also found that adolescents expressed serious concerns with school. He reported that students very openly raised points of concern that they felt in regard to the school situation. Most students expressed five major concerns about the school community: concern that their everyday behavior in school was controlled too much by rigid and seemingly arbitrary rules; concern about overly strict and archaic ways of teaching with too much emphasis on useless things and not enough on individual attention; concern that teachers did not respect students as persons and used sarcasm and embarrassment to control them; concern about a lack of social status shown by a condescending attitude on the part of teachers for students; and finally concern over a lack of even hope for change given the present situations in schools. That students are unhappy over certain school situations seemed very evident to Fisher (1976) in his study in Saskatchewan.

Schmuck (1965) said that adolescents also expressed specific concerns over relationships with their peers which could be categorized into two general groups. Adolescents were concerned that their personal values clashed with those of their friends demonstrating the tension which adolescents experience as they try to formulate their own values and self-concepts. Secondly, adolescents were concerned about friendship and popularity. They are concerned about being detached from friends who are the most available persons who can share similar needs, conflicts, language and interests. The worry and tension caused by such concerns cannot be minimized.

Mosher and Sprinthall (1971) also saw this concern which adolescent experience because of the pronounced rate of physiological change accompanied by the inevitable psychological effects during this period. These changes can give rise in the adolescent to concern about himself and his relationships with his peers which is difficult for the adult to understand but which can be very painful for the adolescent.

Youth is also concerned over religious beliefs Wagner (1978) Graham (1969) and Kuhlen (1952) spanning three decades, all pointed out that the struggle over religious decision is tied up with the young person's struggle for a philosophy of life. Youth is seeking a broad purpose in life and wants to personalize his religion by making it an integral part of existence. For this reason he questions it to find valid reasons why he will or will not accept it. Wagner (1978) stressed that adolescence is a period of development not only of physical, mental and social evolution, but of spiritual change, intellectual doubt and emotional turmoil and coping with these changes

posed major concerns for young people. It would seem that in general adolescents themselves express the fact that they experience some very serious concerns in their struggle through the teenages.

Schmuck (1965) has indicated that psychologists see, as the most basic concern for adolescents, their attempt to achieve a sense of autonomy and individuality. Adolescents have not he said, retreated from adult society, they have not condemned school achievement or the core values of society but they are, he stated, struggling with the integrations of interpersonal messages and appraisals from parents, teachers and peers from which they will put together an autonomous and consistent picture of themselves. High school students (Hollister, 1966) often work very hard to integrate a self-identity and a valid self-image and he pointed out that other researchers (Piaget, 1926; Guilford 1959; Cattell, 1963; Erikson, 1963; Taylor, 1964; Torrance, 1965) have demonstrated the existence of certain abilities which adolescents develop and the time and manner in which they merge into the personality and how this process may be assisted. The concern, therefore, expressed by adolescents for autonomy and personal identity has been echoed by professionals in this area.

Mosher and Sprinthall (1971) agreed that students wanted an opportunity to develop a strong and stable self-concept and a sense of identity. They demonstrated concern over understanding themselves, of the formation of a personal identity, of greater personal autonomy, of greater ability to relate to and communicate with other people, of growth of more ethical thinking and of development of more adult skills and competencies.

For generations parents, educators, youth and religious leaders have been concerned about youth. However, from the above selected readings, it is abundantly clear that adolescents are concerned about themselves also. These concerns of youth reflect the period of transition to adulthood and are found in youth regardless of socio-economic background. They are serious concerns for young people and for the parents, teachers and counsellors who must deal with them. Mosher and Springhall (1971) have expressed this well when they pointed out that youth experience and are more affected by these concerns because they live, psychologically, in a more exposed and vulnerable position. They see deficiencies and inequities in society and are frightened by the prospect of adulthood.

Beliefs and Values

Slocum's (1968) study of rural high schools found that teachers and counsellors have considerable influence in educational aspirations and expectations of a minority of students. He indicated that students make their choices for the future in accordance with his perceptions of the reference groups whose influence is exerted through their relation with him and their attitude towards him. Warner (1944) maintained that when all was said and done the teacher would inevitably be an exemplar for the class with the most social energy and that was the middle class. Unless their values changed, it was to be expected that the school would favor the development of such values as material success, individual striving, thrift and social mobility.

Coleman's (1963) study found that the adolescent emphasized athletics and popularity at the expense of scholastic achievement. The greater percentage of boys would sooner be nationally famous athletes than jet pilots, missionaries or atomic scientists. The girls would sooner be models than nurses for example, although this profession was a close second. Coleman seemed to suggest that the girl's response indicated a more traditional value orientation on their parts. Another characteristic of the adolescent group which Coleman found was a strong pleasure-oriented characteristic which included going to dances, parties, movies, etc. and that the ability to make a stir seemed to be a factor in popularity and group leadership. Coleman predicted the emergence in the U.S. of an adolescent subculture in which students constituted a kind of society in which most of its primary interactions were within its own ranks and had little interaction or connection with the adult society. He noted that it was difficult to understand how such a sub-culture could exist within the adult culture and have its own language, symbols and, most importantly, its own value system, right under the noses of adults. Reisman, Glasser and Denny (1953) viewed the peer group as being the significant referent to the adolescent. He saw the values of parents as subjected to the values of the peer group. Bernard's (1966) study showed that teenagers in ethnic groups were torn between the ethnic and traditional culture of their families and the teenage culture of their peers. Friesen (1967) stated that the two major influences on high school students were parents and friends.

Epperson (1964) reported in his study that over eighty

percent of the students he studied indicated that it would make them unhappy if their parents did not like what they did. His findings differed with Coleman's conclusions. Epperson's evidence indicated that in some respects teenagers were not estranged from adults and that the standard set in the family may not have been replaced to the extent implied by Coleman. Gillespie and Allport (1955), in an international study, found that "familism" was a universal value for individual and group life and the basic moral ethical codes of conduct were universally prized. Babin(1963) found that factors other than family, such as the mass media, greatly influenced the adolescent's values. Things and people which the adolescent perceived as greater than himself and which he considered as being most desirable, were found to significantly influence his value orientation.

Knill (1963) posited an adolescent sub-culture in Canada, similar to Coleman's observations in the U.S. He said that, in Canada, the sub-culture was characterized by distinctive language, customs and behaviors. These were immediately observable differences which made this entity something quite different from the larger society to which teachers and parents belong. He further said that if we pushed somewhat deeper, we could find that differences in the adolescent group were not only the obvious ones of dress and hairstyles but reached the levels of attitudes, values and beliefs. However, his study also showed that when students were presented with two vignettes in which one student was being pictured as being ascetic or traditional in orientation and one pictured as being more indulgent, the students identified with the idealistic one. It should also be noted that the girls were more idealistic than the

boys. In commenting on Knill's findings, Lavers (1970) cautioned that they should be interpreted in terms of the conservative values of Canadians in general and of Saskatoonites in particular. Further, he said that those listed included parochial school children and rural school children as well as urban children. In the study by Knill, parochial students were found to be most traditional, rural students next and urban students least of all. The conclusion to be drawn was that the family and school background affected the degree to which they responded in an idealistic way.

Kitchen (1966) summarized the prevalent American concept of adolescents as coke-drinking, cuddling, record-playing, chore-avoiding "teen", whose interests in life revolved about parties, sports, thrills, speed, etc. and whose idols were the football player and the cheerleader. However, he pointed out that in his study in Newfoundland there was another segment of teenagers which was more conservative or traditional. These were not compulsively independent and rejecting of adult values; nor were they concerned solely with the immediate pleasures and gratifications. In fact, in regard to the aspects of their lives which might be termed "youth culture", they were remarkably sophisticated, pointing out that dating patterns, etc. in their lives were simply passing fads.

Hollingshead (1949) observed in his study that youth were pleasure-oriented. He found there were many areas in which social class had a significant bearing on adolescent values. In fact, adolescent behavior was related in every phase of social behavior - school, church, job, recreation, cliques, dating, sex - to economic status and social class. Pearlin and Kohn (1966) identify value

differences between middle class and working class parents and, after a cross-national study of social differences in values in the U.S. and Italy found similarities in the values of comparable social classes. Lipset (1963) studied the value patterns of students in Canada, Australia, Great Britain and the United States. He found the American students more achievement oriented while the British students were more class conscious and elitism oriented. The Canadian and Australians were somewhere in between. His study would not seem to support the position of Pearlin and Kohn (1966).

Cathcart (1967) investigated the values of high school students and teachers in Alberta in an urban setting and concluded that the most traditional value patterns belonged to students from large families. He found that high school students were more achievement oriented than teachers but that teachers were more independent. He was not able to conclude, however, that for all the scales on the inventory used that there was a significant difference between students and teachers on the values held by each group. Cathcart found that a student's socio-economic rating had no influence on the values held by the students and that education was perceived by students as more important than athletics in popularity.

Lavers' (1970) investigation of student and teacher values in a rural milieu failed to uncover any major differences in student-teacher values relative to selected variables. More similarities than differences were found in this study. There were differences regarding church attendance, favorite T.V. programs and the problem of leaving school or the teaching profession. They differed in degree of participation in outside school activities

and reactions to sudden financial independence. It is significant to note that the students were more inclined to maintain their present roles than the teachers. There were no differences in values between high and low socio-economic levels. Finally, the study indicated that the students were more achievement oriented than their teachers and in some values more future oriented or traditional. MacLellan (1975) in a comparative study of the values of public and separate high school students found no significant differences in their value patterns. In fact, the results, using the same instruments as Cathcart and Lavers were almost identical. Downey's (1960) study of regional variations within the U.S. and between the U.S. and Alberta found that differences did exist. He found Canadians placed greater emphasis on knowledge and scholarly attitudes as outcomes of schooling than did American high-schoolers. In contrast, the American adolescents emphasized physical development and citizenship more than did the Canadians.

Tannenbaum (1961) found that in his study in the U.S. in a predominantly middle class high school that the lowest category in terms of acceptability among the boys was that of the brilliant, studious athlete. His results indicate that athletes were certainly more acceptable than non-athletes, brilliance had little effect on acceptability and studiousness actually reduced it. His study seemed to bear out Downey's findings.

Zentner and Parr (1968) reported that in three schools studied in Calgary, the student social structures were positively oriented towards intellectual pursuits. This was indicated by the place of leadership and high social status accorded students who

are high in academic performance. In every instance for both boys and girls, those students who were high achievers were over-represented in group leadership. Students in this study seemed to possess positive attitudes towards academic success and strive for academic performance. This study supported the findings in the Downey (1960) and Tannebaum (1961) studies while it did not support Coleman's (1963) findings on American teenagers. Friesen's (1968) findings were also opposed to those of Coleman and indicated besides different primary values than Coleman's group, difference between adolescent boys and girls as to their primary values.

Friesen (1969) found in his study of the youth of Boreal City that students of higher socio-economic class had higher academic aspirations, higher achievement and a higher degree of participation in school and extra-curricular activities. He also found a positive correlation between higher socio-economic class and church attendance and also of parental concern for students' academic achievement. He found that girls spent more time on homework and less time on television than boys did. A surprisingly large percentage of youth (65%) participated in community activities which would indicate that this type of activity is still considered an important value by youth.

Rogoff (1962) who studies 35,000 high school students found that social class produced greater variations than did ability in terms of college plans. More members of the higher social class, regardless of ability, were planning to attend college. Empey (1956) in a study in Washington found that the occupational status of the father related significantly to educational values of high school boys. Strong's (1963) study in Alberta corroborated Empey's findings.

Strong found that high school students whose fathers had high occupational status possessed values of high aspiration and achievement.

Clarke (1969) showed that Canadian adolescents from three religious and ethnic backgrounds were similar in the distributions by grade and sex. They were very different in socio-economic status and there were no significantly different responses on several value indicators when compared with this socio-economic factor. However, he found no significant differences in the factors of their desire to stay in school, recognition of character, necessity for success in life or the desire to resemble anyone but themselves, as value indicators.

Havighurst (1962) in the River City study showed that academic achievement can be closely associated with family background or social class, intellectual ability and personal social adjustment. He also found that there was a significant relation between church participation and social class with youth in the higher socio-economic scale more active in church activities.

Remmers (1957), in his Purdue studies, found differences in religious feeling among Catholic, Protestant and Jewish teenagers. Twelve percent of Catholic, nine percent of Protestant and four percent of Jewish students attended religious services three or more times a week. Four percent of Catholic, five percent of Protestant and fifteen percent of Jewish teenagers said they did not attend church at all. Remmers also found differences among these groups in regard to the happiness they experienced in religion, the number who said daily prayers and the number who said their prayers were

answered. There were also differences in self-confidence among the groups with Jewish students showing a higher degree of this characteristic than Catholics or Protestants.

Bealer and Willits (1967) discovered that adolescents' concern for the religious sphere of life was greater than the older generation of adults might believe although within this range of religion the main concerns were their own personal relationships. They also discovered a conservatism in adolescent religious beliefs, with a tendency to accept their parents' religious values. Strommen's research (1963) of a cross-selection of Lutheran adolescents revealed that they were not as concerned with specific acceptance and health. The study found that medium sized congregations had greater positive influence on youth than larger or smaller congregations. Strommen attributed this finding to a community-like spirit of involvement where congregations were large enough to provide sufficient adult leadership, concern and cooperation with youth and small enough to retain a sense of personal belonging. While he found little relationship between religious knowledge and moral values, he found a positive relationship between moral behavior and dedication to religious practices.

Loukes (1961) found that adolescent youth take religion seriously and accept traditional language and symbolism more than is commonly supposed. His findings seem to indicate that youth is somewhat confused and indecisive about values and about their place in life in general. Cole and Miller (1970) in their study of high school youth indicated that a majority of them attended church and, of those who did not attend, the vast majority said they believed

in religion and cited more mundane reasons for non-attendance.

Getzels and Jackson (1962) found a significant difference in the values of Catholic and Protestant fathers in regard to educational values. Loukes (1961) found a significant difference between the religious or ethnic factors and educational values which parents hold for their children. Strong (1963) in a study in Alberta on levels of aspiration and achievement found that Protestants aspired higher than Catholics. Havighurst and Keating (1971) made several generalizations about adolescents in their view of religion. Their study of values showed that adolescents were concerned about religion, they reflected the religious values of their parents, their world of concern was relatively limited and their religious knowledge and activities had little relationship with their day-to-day experiences. Remmers (1957) claimed that one of the most significant factors influencing an adolescent's religious values was the atmosphere of the home. This influence might be direct or oppositional. If the religious tenets were very rigid and where the beliefs placed the youth apart from his peer group, he might, faced with a tension between parental and peer values, reject the former. Remmers (1957) found that Catholic students scored lower on the economic and rationality scale and higher on the anti-scientism scale. Greeley and Rossi (1966) found this was not so. Their findings showed no evidence to support anti-intellectualism on the part of Catholic students and, in fact, he found the greatest discrepancy was along the Jewish-Protestant continuum. MacLellan (1975) found a slightly higher aspiration level among separate school students although the difference was not significant.

The studies reviewed in this section have made one thing very clear - there is a confusing and contradictory array of conclusions cited about adolescent concerns, values and beliefs and the factors which influence the development of their value systems. The studies included regional, national and international samples covering such factors as school environment, parents' occupational level, socio-economic status, peer-group pressure and religious commitment. For every study supporting a particular factor, another can be found to challenge it. Clearly the value systems of adolescents, and the factors influencing their development, are far from being consistently defined or interpreted. This variety and diversity, however, leads the present writer to question whether a generalization about the concerns, values and beliefs of adolescents should be made or would it not be preferable to study this question especially in regard to the developing adolescent on a local level. Since these studies show a great divergence from the point of view of region, it would seem more efficacious to view adolescent concerns and values on a local basis. The practical value of such a point of view lies in the use such knowledge can be to the school and particularly counsellors in counselling adolescents.

Underachievement and the Adolescent Value System

The definition of underachievement is a complex one (Kornrich, 1965) because of the subjectivity involved in interpreting terms like "less well", because of the question of by whose standards these terms are interpreted and because of the variety of techniques

used to measure such terms. A plethora of definitions (Ohlsen & Proff, 1960; Goldberg, 1957; Gowan, 1957; Borislow, 1962; Fliegler, 1957; Shaw, 1961) have been offered for underachievement. Davis (1959), Feather (1975) and Thorndike, (1963) have done detailed research into this definition. To belabor the point that underachievement has been defined operationally in almost as many ways as there are research papers would be at best redundant and at worse completely useless. What is of importance is how it is defined operationally for purposes of the present study: underachievement, for purposes of this study, was determined by using a simple linear regression. The difference between the actual and the predicted grade point averages was determined. The under-achievers were those in the lower fifty percent who have the greatest difference between the actual and the predicted G.P.A's.

In describing the non-achievement syndrome, Roth and Meyersburg (1963) stated that underachievement does not arise from an incapacity to achieve but was rather related to factors other than inborn capacity. This forms an important point in the study. They said it was often the expression of the student's choice or pattern of choices and is an enduring thing. They saw poor achievement as a poor behavioral pattern related to character traits. In their work, they outlined a group of symptoms which make up the poor achievement syndrome:

1. Poor academic achievement
2. General self-depreciation
3. No clear system of personal goals and values
4. Vulnerability to disparagement by others

5. Immature relations with parents
6. Frequent depressions
7. Lack of insight about self and others
8. Free-floating anxiety.

It is significant that one of these symptoms which they include in the syndrome is a lack of personal goals and values.

Other researchers have indicated that underachievement is not an isolated phenomenon in the lives of some students but rather is a chronic characteristic found in the individual's life-style which has been shaped by various cultural factors. Broedal et al. (1960) and Shaw and Brown (1957) provided evidence that underachievement among high school sophomores is not a surface phenomenon which is easily modifiable, but rather is related to the basic personality make-up of the individual. Shaw and McCuen (1960) also stated that from their research one justifiable conclusion could be drawn that underachievement is not a temporary phenomenon in the life of students but is rather chronic in nature. Broedel et al. (1960) in studying the effects of group counselling on underachievers found that eight weeks was too short a period to complete treatment because underachievement was not easily eradicable. Added to this is the position of Hurlock (1966) that underachievement is increasing at a considerable rate and that the obligation to face the problem especially at the local level becomes paramount.

In her singularly negative article, Hurlock (1966) characterized the "New species of American Adolescent" as peer-conforming, status-seeking, irresponsible, anti-intellectual, shiftless and critical, with a new set of "values", disrespectful of older

people and unrealistic in his level of aspiration. In discussing youth's anti-intellectualism, Hurlock said that if a choice between intellectual and non-intellectual interests must be made, it was generally not in favor of the former. She claimed that this is why the number of underachievers among bright students - students who in the past would have been real intellectuals - is growing at such an alarming rate. While Hurlock's exposé of youth may be questioned in several respects, her description of a growing rate of underachievement in young people seems valid.

For over seventy years, one of the main studies in the field of psychology has been the child and, as Raths et al. (1966) pointed out, one of the major results of this study has been the role that emotions play on the life of a growing child. This, they pointed out, led to a trend which implied that almost all the difficulties of children grew out of emotional disturbances. At the same time, the stress on the measurement of intelligence formed a second major theme in the study of the child. Basically, these two movements led all too often to the conclusion (Raths, Harmin & Simon, 1966) that children's difficulties, especially school problems, were attributed to either emotional disturbance or low scholastic ability. Without denying these as prime suspects of the cause of problems, these researchers ask whether or not value systems which have been important and even crucial in human development might not be causes of children's and adolescent's problems.

Could it be that a number of children's problems currently attributed to emotion, for example, are more usefully seen as resulting from value disturbances?... We have found that several kinds of problems children often exhibit in school and at home are profitably seen as being caused by values, or more precisely, by lack of values. (p. 4.)

These writers identified children who have value-related disturbances with several types of idiosyncratic behavior including underachievement and state that the common malady of these children seems to be confusion in values.

Mitchell (1972) also stressed this possibility in pointing out that psychology has a considerable background of research and wisdom with regard to socially-induced problems but its knowledge of personal difficulties arising chiefly from personal value-deficiency is quite meagre. Without alluding to any particular problem, Mitchell made it clear that value-deficiency is a cause for concern in personal development.

As early as 1959, Gowan, in analyzing the research extant of underachievement, isolated 19 factors which affect the achievement of high school and college students. As a result of his findings, he concluded that perhaps the day was passing for examining achievement from the basis of psychological differences in individual development and the beginning of an era in which research will be mainly concerned with the societal and cultural values in which any development takes place. He said the findings also suggest that the need structure which produces achievement may not be the need structure that produces something like creative innovation. Strommen (1963) and Strommen and Gupta (1972) also saw lack of satisfaction in one's need structure as basic to many of youth's problems. They stated

that there were some needs which are basic and that these needs were reflected in the concerns and values of youth. Assuming that concerns are reflections of an individual's needs, would it not be of importance to examine the student's value system in the light of his concerns? No research was found that had attempted to do this, although the literature on underachievement is monumental. Rosen (1959) found that high motivation for achievement in boys was related positively to achievement and independence training by parents. McClelland et al. (1958) found that over-achieving boys scored higher on need for achievement and achievement values. These authors have highlighted some of the important variables related to achievement and have developed instruments for assessing motivational strength and achievement value. They have suggested achievement motivation, values, social adjustment, social status, and educational-occupational goals as non-intellectual factors related to achievement among able youth. Pierce and Bowman (1960) found identification with significant adults, the number of siblings, hobbies, educational level of parents, and parental attitudes towards child-rearing were all variables related to achievement in youth. Roe (1953) implied the importance of non-intellectual factors in predicting success above a certain level of achievement. Terman (1947), in his study of gifted children, also indicated that there was a marked difference in successful and less successful groups in their drive to achieve. In a study of differential vertical mobility rates among six ethnic and racial groups, Rosen (1959) found that the differences could be accounted for in terms of the differing psychological orientations of the groups. De Haan and Havighurst (1957) have

developed a theory of educational motivation in which he included unconscious need for achievement, valuing achievement, intrinsic motivation and social motivation related to achievement among talented youth. A study in Portland Public Schools (1959) of high and low achieving gifted youth found high achievers more stable and self-confident than low achievers. Indeed, as shown above underachievement has many personality and environmental correlates.

Often the dominant characteristics of a culture are stressed to the detriment of the diversifying patterns (Stewart, 1971; Inlow, 1972). Kluckhohn and Strodtbeck (1961) said that in most of the analyses of the common element in culturing, the dominant values of people are overstressed and variant values largely ignored.

It seems, then, that underachievement is a chronic problem in some individuals and that it may be increasing. Values have been hypothesized as one possible symptom of the underachievement syndrome. The question is obvious: Are values significant indicators of student underachievement? Would the study of the values of such students reveal any pattern which might help parents, schoolmen and counsellors to recognize and understand these students, to initiate more meaningful curricula and to provide more effective counselling?

Perhaps the words of Katz (1963) stated most concisely and succinctly the importance of values of high school adolescents:

If there is a single, synthesizing element that orders, arranges and unifies such interactions (of social and psychological forces), that ties together an individual's perceptions of cultural promptings, motivating needs, mediating symbols, differentiating characteristics, and sense of resolution, that relates perceptions to self-concepts, and that accounts most directly for a particular decision, or for a mode of choosing, it is here suggested that that element is the individual's value system. (p. 16)

CHAPTER III

INSTRUMENTS, PROCEDURES, DESIGNS

The Instruments

A. The Youth Research Survey

As has been outlined in Chapter 1, the present research was aimed at identifying differential characteristics of achieving and underachieving high ability students at grade nine and twelve levels with respect to their concerns, values and beliefs. Several instruments were available for the measurement of values but, only one, the Youth Research Survey incorporated values, beliefs and concerns in a single test. It was, therefore, chosen as the principal instrument. Underlying the development of this instrument was the principle that home, church and school are the major influences on the formation of values of young people.

The Youth Research Survey is an instrument of the self-report variety. It was developed through six distinct stages during 1970 and 1971 by Strommen and Gupta (1972). The present survey is the fourth revision of the instrument and is not only an updating of earlier editions but utilizes recent advances in instrument development, the latest techniques in data analyses, and a large sample for standardization. It also added a few new scales.

The Youth Research Survey consists of two test booklets. Book 1 is entitled "Myself and My View of the World" and deals with the concerns of growing people. It has 220 items which give measures

on 12 scales and also includes some items which provide biographical and sociological information. Book 2 is entitled, "My Values and Beliefs" and deals with the values and beliefs of young people which reflect the Judaeo-Christian traditions. It has 200 items and gives measures on 13 scales or dimensions.

Each of the twenty-five scales extracted from the 420 items is assumed to reflect a single underlying variable. Most of the scales have negligible interscale correlations. Less than four percent of the possible correlations showed a common variance of twenty-five percent or higher. This means that the score on any one scale gives information not already given by any of the remaining scales. The scales are classified as follows:

Concerns	10 scales
Values and Beliefs	11 scales
Perception	3 scales
Validity or Frankness	1 scale

Scales range in size from seven to twenty-five items. Each item response has been assigned a differential weight, using the method of reciprocal averages. The number of responses for the various items ranges from two to six. The sum of the differential weights for the responses of an individual to the items of a scale gives his score. The Frankness or Validity Scale assesses the individual's openness in admitting what is uncomplimentary about himself, that is, a check on whether he is distorting information about himself. This scale and the three perception scales were not included in the analyses of the data.

What the scales or variables in the research measure, as

outlined by Strommen and Gupta (1972) is outlined below.

Concern Scales

1. Family Unit reflects the youth's concern and anxiety over the emotional climate within his home: the lack of closeness, cohesiveness, togetherness, and oneness of family members; their lack of understanding and consideration for one another; and the quality of inter-action between parents and children. The higher scores reflect greater concern. There are ten items on this scale.
2. Parental Understanding reflects concerns over a lack of communication and understanding between a youth and his parents, distress over the feeling of being treated like a child, and disappointment in his parent's distrust or rejection of him and his friends. The higher scores reflect greater concern about parental understanding. There are nine items on this scale.
3. Family Pressures reflects concern over things which tend to intensify negative reactions in a home. They include such differences as divorce, separation, illness, financial problems, tragedy and parent-youth strife. The more difficulties that are identified, the higher the score. There are seven items on the scale.
4. Life Partner reflects a youth's uncertainty over his relationship with the opposite sex and his anxiety over the possibility of not having a happy marriage. The items also tap the fear of not being wanted or found desirable by persons of the opposite sex. The higher scores reflect greater concern. There are seven items on this scale.

5. Lack of Self-Confidence indicates the extent to which a youth feels uncertain about himself and is afraid of making mistakes or exposing himself to ridicule. A high score identifies a youth who tends to be self-conscious, uneasy in a group situation, anxious to please others and over-eager to avoid occasions where he may be embarrassed. There are eight items on this scale.
6. Academic Problems relates to concerns about the academic aspects of school life. The scale assesses the degree to which the respondent is worried about his grade - actual and anticipated, his frustration over not being able to concentrate on school work, and his self-blame over doing poorly or failing. There are nine items on this scale.
7. Personal Faults indicates a youth's awareness of not living up to his ideals and feeling guilty. This scale measures his feeling of self-criticism, both with respect to what he has done and what he has failed to do thus undermining his self-confidence. There are twelve items on this scale.
8. Classroom Relationships focuses on the feeling of not being accepted by one's classmates and teachers. It indicates the degree to which the respondent is lonely and feels like an outsider or an unwanted intruder. In the case of girls, high scores are usually associated with feelings of inadequacy. For boys, they are associated with criticism by others. There are fifteen items on this scale.
9. National Issues reflects a youth's fear of pollution, nuclear holocaust, violence, revolution, war, disorder and lawlessness. It also assesses their concern over unjust laws and the seeming unre-

sponsiveness of government to the needs of people. There are eleven items on the scale.

10. God Relationship reflects a youth's troubled awareness of feeling distant and alienated from God. It focuses upon their feelings of spiritual lonesomeness and their concern over not being able to live up to their religious convictions. It measures a youth's feelings of uncertainty about his relationship with God and his concern about life after death. The higher scores reflect more concern in this relationship with God. There are nine items on this scale.

Belief and Value Scales

11. Interest in Help assesses the degree to which the respondent wishes to participate in the opportunities which are provided or which will be provided by a congregation or school. It presents descriptions of helpful types of activities and encourages the young person to choose those which are of interest to him. A fairly strong association has been found between declared interest and actual participation. The higher the score, the greater the interest shown in getting help. There are twenty-five items on the scale.

12. Maturity of Values assesses the degree to which one feels free to make independent choices. It indicates the extent to which he feels in control of his behavior and able to resist immediate drives and the pressures from others. A high score suggests one who believes he can move toward goals that serve his ideals. There are seven items on this scale.

13. Orientation for Change reflects youth's thinking in the political realm of law enforcement, social welfare, race relations, war, reforms in school curricula, and sexual behavior. It indicates whether one leans toward traditional thinking in these matters or whether one takes a liberal stance that welcomes change. On this scale a low score implies a tendency to maintain the status quo or a more traditional type of thinking. There are eleven items on this scale.

14. Moral Responsibility reflects the extent to which a youth retreats to a "privatism" where he denies the existence of a moral order or becomes involved in life by accepting a God-given sense of responsibility for others. The higher scores indicate a greater sense of responsibility. There are ten items on this scale.

15. Meaningful Life contains items which center in a life style that accords importance to such life goals as serving others, ethical behavior, wisdom, honesty, giving and receiving love, forgiveness, family happiness, and meaningful work. A low score points to a contrasting life style which is characterized by goals that are hedonistic and self-centered, giving a high priority to having plenty of money, personal power, physical attractiveness, pleasure and excitement, recognition, skill and expertise. There are seventeen items on this scale.

16. Religious Participation assesses the degree of a youth's involvement in the activities of the institutional church and indicates his general acceptance of the declared beliefs and values. It reflects also his stance in the evaluation which he gives his religious institution and its worship services. A higher score suggests more participation. There are thirteen items on this scale.

17. Social Action relates to the practical expression of a youth's concern for other persons in his society - what he is doing or has done recently to help the lonely or rejected, minorities, and people in need or distress. It assesses the extent to which youth are helping through small deeds of kindness and participating in activities labeled social action. There are eight items on this scale.

18. Self-Regard measures the degree to which youth accept themselves as persons of worth and promise. Most youth experience times when they hold a low opinion of themselves but when these occasions are prolonged or become frequent, self-confidence or self-esteem is undermined and becomes problematic. High scores indicate a positive self-regard. There are thirteen items on this scale.

19. Human Relations relates to the presence or absence of an open-mindedness, sensitivity and compassion toward those who are often criticized and judged harshly. The reasons for criticism may be racial, religious, chauvinistic, ideological or the like. A high score implies an understanding of the essential equality of all men before God. There are twelve items on this scale.

20. God Awareness allows for a positive affirmation of faith by indicating the extent to which youth are aware of God in their lives and believe that He is an ever-present reality. The items allow also for an affirmation (or denial) of the reality of life after death and the potency of prayer. A high score indicates a strong feeling of the presence of God in one's life. There are fifteen items on this scale.

21. Biblical Concepts distinguishes those who hold to a humanistic form of religion from those who hold to a particularistic Christian faith. It indicates those who both perceive the conceptual uniqueness of Christianity and reject generalized statements of religion. A higher score indicates the more believing and lower score those who hold a more humanistic form of religion. There are eight items on this scale.

Validity

The rationale underlying the construction of the instrument is that two universal needs typify all youth irrespective of culture. These are: The need to feel accepted by an identifiable family or group (mutuality) and the need to be meaningfully involved in something that gives a sense of purpose (mission). It was assumed by the authors that both these needs must be met for a person to develop adequately. Young people for whom these needs are not met will be anxious and show this anxiety through expressions of concern. Contrariwise, young people who have a sense of mutuality and mission will be satisfied, much less anxious and show fewer concerns. If this is true, the high scores on the Concern scales should result from those youth in whom these basic needs have not been satisfied. Low scores should characterize those for whom these needs have been met. The same is true for the need of belonging or mutuality. Those for whom this need is met should be more accepting, more involved and more responsible and should score higher on the scales of values and beliefs with the exception of Orientation for Change. The purpose

of the instrument (Strommen & Gupta, 1972) is to determine where youth are with respect to twenty-four variables related to these two basic needs. These authors presented evidence related to construct and concurrent validity for each of the Concern, Value and Belief scales. Handley (1973) extended the work by examining such validities for each item.

Reliability

The type of reliability aimed at in the process of constructing the scales is homogeneity (Loevinger, 1947, 1948). The median reliability for the Concern scales is .86, for the Value-Belief scales .75, and for the Perception scales .77. Taken together, the median reliability for the Concern, Value and Belief scales is .79. Over a seven-month period, the instrument showed relatively high (.74) test-retest reliability for nine of the scales and somewhat lower (.59) for the others. Besides the reliability of the scales, the independence of the scales was also examined thoroughly. The resulting data on 300 inter-scale correlations showed that only eleven coefficients were .50 or more, indicating high success in developing independent scales.

B. The Lorge-Thorndike Tests of Intelligence

The second major instrument in the research was the Lorge-Thorndike Tests of Intelligence (Multi-level Edition). This instrument was used to determine the general scholastic ability of the

students. This test is well-known and widely used and, for this reason, details as to its validity and reliability are omitted.

The Sample

The subjects for this study were drawn from a large (N=1950) junior-senior high school in a small mining town. This school serves the town and the surrounding areas. The population of the town is about 13,000. The vast majority of men work in the mining industry and nearly 95% of the people are Roman Catholic.

To identify those who were to be asked to participate in the study, the Lorge-Thorndike Tests of Intelligence were administered to all ninth and twelfth grade students - level "f" and "g" respectively.

These tests are administered annually to students at the grade three, six and nine levels as part of the Nova Scotia Schools Standards Project. The testing was extended at this school to include level "g" for grade twelve students in 1976 for the specific purpose of this research. The tests were administered by the home-room teachers to all students at the ninth and twelfth grade levels. The scoring was done by the Testing and Evaluation Division of the Department of Education, Halifax, Nova Scotia in March, 1976. The results of this testing were compared with results of previous testing with the Lorge-Thorndike Tests in the earlier grades. No great differences were found. There were eleven students whose Student Developmental Record Form (SDRF) did not have the previous Lorge-Thorndike results for various reasons. The results of the March,

1976 testing, therefore, were used as the sole measure of scholastic ability for all subjects in the subject.

The highest 30% of males and the same proportion of females from the two grade levels were selected. Because of the very few students of religious denominations other than Roman Catholic, it was decided to restrict the sample, which is the same as the population in this instance, to Catholic students. The sample was also restricted to those enrolled in the University Preparatory stream. The total population of Catholic students was drawn from 197 males and 154 females at the grade nine level and 121 males and 94 females at the grade twelve level. Three male students at the grade twelve level chose not to participate. The resulting groups drawn from the highest 30% of Catholics, consisted of 101 grade nine students (55 males, 46 females) and 59 grade twelve students (32 males, 27 females).

While the results may be considered as conclusive for this study, the investigation is primarily exploratory in nature. The results in general, should be viewed as being indicative rather than definitive. Since the study is based on a sample in a local milieu, the generalizeability of the results will be limited.

Because of the nature of the situation, even though "population" is being studied, data analysis will be done as if a "random sample" from the population was used.

Identification of Achievers and Underachievers

As previously indicated the subjects were drawn from a large junior-senior high school. The subjects were all Roman Catholic, registered in the University Preparatory stream at the grade nine and twelve levels. At the grade nine level, a student in this stream must register in English, science, social studies and mathematics. At the grade twelve level, a student must register in English and history.

The grade Point Average was used as a measure of achievement. In computing grade point averages, the four obligatory subjects were included for the ninth grade students. For the twelfth grade students, the two obligatory subjects plus a science and a mathematics course were used. Examples of how the grade point average were computed are:

<u>Ninth Grade Student</u>			<u>Twelfth Grade Student</u>		
<u>Subject</u>	<u>Mark</u>	<u>G.P.</u>	<u>Subject</u>	<u>Mark</u>	<u>G.P.</u>
English	B	4	English	D	2
Social Studies	A	5	History	C	3
Science	C	3	Physics	D	2
Mathematics	B	<u>4</u>	Mathematics	E	<u>1</u>
	16/4=4.00			10/4=4.25	

The subjects "ability" was measured by the Lorge-Thorndike (I.Q.) Tests. Achievement was measured by grade point average (G.P.A.). Predicted G.P.A.'s were obtained by using simple linear regression - I.Q.'s predicting G.P.A.'s. The resulting differneces between the actual and the predicted G.P.A.'s for the highest 30% of the males and females at each grade level were arranged in descending order of

magnitude. The top fifty percent were called achievers and the lower fifty percent were called underachievers. During the computer analysis in Minnesota, one student, an underachieving female in grade twelve was lost and one junior male was shifted to the achieving group leaving slightly uneven numbers in the groups - 81 achievers and 79 underachievers instead of the two groups being equal. The results of the simple linear regression are given in Appendix A.

Administration and Scoring of the Youth Research Survey

The Youth Research Survey was administered by the investigator and four colleagues of the Counselling Centre of the school in the last two weeks of May and the first week of June to all of the 160 students in the sample.

With the permission and full support of the Principal, the students involved were asked to come to the Counselling Centre to arrange for times when they would be free for a two-hour period in which they could take the test.

In preparation for the administration, all five Counsellors studied the administration manual together. Prior to each testing session, the administrator gave the introduction to and explanation of the Youth Research Survey as outlined in the manual (pp. 9-12). The administrator then distributed the Survey booklets, answer sheets and pencils. The answer sheets are those specifically designed by the Search Centre for use with the Youth Research Survey and were especially purchased by the Counselling Centre for this study. The administrators watched carefully as the students marked the first

few responses on the answer sheets to be sure they were being done properly. The student lounge was adjacent to the testing area and available to students wishing to take a short break before beginning Book II of the test.

As each student finished, the administrator made a final check to see that the grade level and sex designations were correctly marked by the student and that no stray pencil marks were on the answer sheets. Because the YRS does not provide a space for Achievers and Underachievers, an agreement was made to use item 200 on the answer sheets. This space is normally used to identify religious denomination. The Counsellors administering the test were in possession of the students' classification as achievers or under-achievers. As each student passed in his/her answer sheet, the Counsellor filled in either (A) for achievers or (B) for underachievers. The students were not told about their specific classification.

The students were advised that their answers would be processed through a computer. The Search Institute (formerly Youth Research Centre) guaranteed the confidentiality of the individual's responses. The Counsellors who administered the test guaranteed the complete confidentiality from the school's point of view. The answer sheets were forwarded by registered mail to the Computer Processing Department, Search Institute, 122 West Franklin Avenue, Minneapolis, Minnesota, 55404, where the scoring and analysis were carried out.

Design of the Research

The study used a three-factor design with cross-classification for each of the twenty-one scales. The factors were Achievement (Factor A), Sex (Factor B), and Grade (Factor C).

Factor A: Achievement	Achievers (1)
	Underachievers (2)
Factor B: Sex	Males (1)
	Females (2)
Factor C: Grade	Nine (1)
	Twelve (2)

The layout of the data is given in figure 3.1.

Hypotheses

The following hypotheses follow from the design:

1. There is no difference between 'achievers' and underachievers' on a given scale. (Effect A does not exist.)
2. There is no sex difference on a given scale. (Effect B does not exist.)
3. There is no difference between ninth and twelfth graders on a given scale. (Effect C does not exist.)
4. There is no interaction between sex and achievement on a given scale.
(Effect AB does not exist.)
5. There is no interaction between sex and grade levels on a given scale. (Effect BC does not exist.)

		A ₁ Achievers	A ₂ Underachievers
B ₁ Males	C ₁	Grade 9	
	C ₂	Grade 12	
B ₂ Females	C ₁	Grade 9	
	C ₂	Grade 12	

Figure 3.1

Layout of Data for the Research

Each cell in the above configuration contained the scores of the appropriate subjects on a given scale.

6. There is no interaction between grade levels and achievement levels for a given scale. (Effect AC does not exist.)

Analysis of the Data

The data were analyzed at the Computer Centre, Search Institute, Minneapolis, Minnesota, U.S.A. The programs used were ICON I and II and OSIRIS III, distributed by the Institute for Social research, University of Michigan. The principal technique used in this research was three-factor ANALYSIS OF VARIANCE (ANOVA), cross-classification. All the factors were fixed. The basic assumptions associated with factorial designs are well known (Winer, 1962) and, therefore, are not given here. The same procedure was used for each of the twenty-one scales used in the study.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF DATA

Chapter III has presented the instruments of the research, the design of the study and the procedures which were adopted for collecting the data. This chapter presents the results from ANALYSIS of VARIANCE which was the principal data analytic procedure used in this research.

Of the twenty-one scales which were included in the study, three scales - Parental Understanding, God Relationship and Interest in Help - failed to yield significant F for any one of the six effects examined. These scales will not, therefore, be discussed in this chapter.

On eight of the twenty-one scales, no interaction was found but one or more main effects were significant. They were: 4, 7, 13, 14, 15, 16, 18, and 20. The results related to them are examined and interpreted in Section A.

For the remaining ten scales, interactions occurred between at least two of the three factors.

AB interaction (achievement and sex) occurred on Scales 3 and 5.

AC interaction (achievement and grade) occurred on Scales 1, 5, 6, 8, 21.

BC interaction (sex and grade) occurred on Scales 9, 12, 17 and 19.

The results and interpretations related to these scales are given in Section B.

A. Scales Giving No Interactions but Significant Overall Main Effects

Scale #4, Life Partner, reflects a youth's uncertainty over

his relationship with the opposite sex and his anxiety over the possibility of not having a happy marriage. The items on this scale and their source on the Youth Research Survey follow.

<u>Item No.</u>	<u>Scale #4 Life Partner</u>	<u>7 items</u>
	<u>I am bothered by the fact that:</u>	
86	I fall in love too easily.	
	<u>I wonder about:</u>	
126	What to look for in a life partner.	
128	Whether I will marry someone who will give me happiness.	
129	How to keep boys/girls interested in me.	
130	Whether my sexual desires are normal.	
132	Whether I will find a life partner.	
133	Whether I can find a life partner who feels the way I do about things that are right and wrong.	

The choice of answers is:

N - Never Bothered	Q - Quite a Bit Bothered
NL - No Longer Bothered	S - Somewhat Bothered
V - Very Much Bothered	L - Very Little Bothered

As can be seen from Tables 4.1 and 4.2, there was a significant difference on Factor C grade levels. The grade twelve students showed significantly more concern over the choice of a life partner (\bar{X} = 48.41) than did the ninth graders (\bar{X} = 45.31). This result was expected. Grade twelve students are on the threshold of their adult lives and, therefore, more concerned over the responsibilities which adult life will bring to them in the near future. It is understandable that they would feel more concern and uncertainty over relationships with the opposite sex and the possibility of not having a happy marriage.

TABLE 4.1
THREE-WAY ANOVA FOR SCALE #4
LIFE PARTNER

Source of Variance	Sum of Squares	df	Mean Squares	F Ratio
A: Achievement	3.42	1	3.42	0.07
B: Sex	145.68	1	145.68	2.93
C: Grade	406.10	1	406.10	8.18**
AB: Interaction	62.94	1	62.94	1.27
AC: Interaction	25.07	1	25.07	0.51
BC: Interaction	44.81	1	44.81	0.90
ABC: Interaction	12.80	1	12.80	
Error:	7496.63	151	49.65	

**p<.01

TABLE 4.2
MEANS AND SAMPLE SIZES FOR LIFE PARTNER
CLASSIFIED BY GRADE

9

12

<div>N = 101</div> <div>\bar{X} = 45.31</div>	<div>N = 58</div> <div>\bar{X} = 48.41</div>
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This is likely to be more true for those preparing to enter the working world than for those planning on further education. For the ninth graders marriage and family responsibilities are remote and, therefore, not a pressing concern.

Scale #7, Personal Faults, reflects a mode of thinking and feeling about oneself that often undermines one's self-confidence.

<u>Item No.</u>	<u>Scale #7 Personal Faults</u>	<u>12 items</u>
	<u>I am bothered by the fact that:</u>	
43	I do not do enough to help others.	
57	I cannot forgive myself for things I have done.	
65	I cannot keep from thinking thoughts I shouldn't have.	
73	I cannot live up to the standards I have set for myself.	
104	I don't know how girls (boys) think.	
110	I am jealous of my friends.	
117	It seems that I can never do anything right.	
119	I often feel sorry for myself.	
120	I do not know what to do when someone makes fun of others.	
121	I am somethimes so concious of my faults that I enjoy nothing.	
122	I am unsure of myself.	
127	I wonder why I behave as I do.	

The choice of answers is: N NL V Q S L

As can be seen from Tables 4.3 and 4.4, there was a significant sex difference on Personal Faults. Female students showed significantly more concern (\bar{X} = 52.27) over not living up to the ideals they had set for themselves than did the males students (\bar{X} = 48.10). Girls, evidently, feel a high level of guilt and criticism both concerning

TABLE 4.3
THREE-WAY ANOVA FOR SCALE #7
PERSONAL FAULTS

Source of Variance	Sum of Squares	df	Mean Squares	F Ratio
A: Achievement	22.77	1	22.77	0.34
B: Sex	892.28	1	892.28	10.94**
C: Grade	231.05	1	231.05	2.83
AB: Interaction	86.71	1	86.71	1.06
AC: Interaction	234.86	1	234.86	2.88
BC: Interaction	140.67	1	140.67	1.73
ABC: Interaction	87.56	1	87.56	1.07
Error:	12313.81	151	81.55	

**p<.01

TABLE 4.4
MEANS AND SAMPLE SIZES FOR PERSONAL FAULTS
CLASSIFIED BY SEX

M	F
<div>N = 87</div> <div>\bar{X} = 48.10</div>	<div>N = 72</div> <div>\bar{X} = 52.57</div>

what they have done and what they have failed to do in regard to achieving their ideals. This tendency would be expected in girls in general. The fact that the girls in this study come from an area with a highly traditional background where religious and ethical training would stress such thinking and feeling only served to accentuate this concern over personal faults. This mode of thinking and feeling could seriously undermine the self-confidence of such students and might, therefore, be a topic for counselling and re-education with female students, especially in certain extreme cases.

Scale #13, Orientation for Change, reflects youth's thinking in the political realm of law enforcement, social welfare, race relations, war, reforms in school curricula and sexual behavior. It indicates whether one leans toward traditional thinking in these matters or whether one takes a liberal stance that welcomes change.

<u>Item No.</u>	<u>Scale #13 Orientation for Change</u>	<u>11 items</u>
161	The students should have more to say about what is taught in my high school	
162	Courses in school do not apply to the world I know.	
163	America needs stricter law enforcement.	
164	A citizen should have the right to decide in which wars he will fight.	
165	As long as you love the other person, sexual intercourse before marriage is okay.	
166	All war is basically wrong.	
167	It is wrong to date a person of another race.	
169	Every young man should be willing to serve in the	

TABLE 4.5
THREE-WAY ANOVA FOR SCALE #13
ORIENTATION FOR CHANGE

SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	F RATIO
A: Achievement	74.51	1	74.51	1.61
B: Sex	198.47	1	198.47	4.30*
C: Grade	12.57	1	12.57	0.27
AB: Interaction	54.64	1	54.64	1.18
AC: Interaction	147.15	1	147.15	3.19
BC: Interaction	30.90	1	30.90	0.67
ABC: Interaction	32.75	1	32.75	0.71
Error:	6975.31	151	46.19	

*p<.05

TABLE 4.6
MEANS AND SAMPLE SIZES FOR ORIENTATION FOR CHANGE
CLASSIFIED BY SEX

M	F
<div>N = 87</div> <div>$\bar{X} = 55.72$</div>	<div>N = 72</div> <div>$\bar{X} = 53.26$</div>

armed forces.

171 The protests of college students are a healthy sign
for America.

172 Every person has the right to free medical care if he
needs it but cannot afford it.

174 Every person has a right to adequate housing even if
he cannot afford it.

The choice of answers is:

SA - Strongly Agree

D - Disagree

A - Agree

SD - Strongly Disagree

As can be seen from Tables 4.5 and 4.6, on Orientation for Change, there was a significant sex difference. Females had a lower ($\bar{X} = 53.26$) mean than the male respondents ($\bar{X} = 55.72$). Again the results seem to reflect the more traditional values and thinking of girls in regard to such questions as the political realm of law-enforcement, social welfare, school curricula, sexual behavior. It would seem that the modern accent on woman's liberation has not reached the female subjects of this study and that their values reflect a more traditional than emergent orientation. The higher mean for males (55.72) seems to reflect a more liberal stance or a more emergent orientation in their value system.

Scale #14, Moral Responsibility, reflects the extent to which youth retreats to privatism where he denies the existence of a moral order or becomes involved in life by accepting a God-given sense of responsibility for others.

<u>Item No.</u>	<u>Scale #14 Moral Responsibility</u>	<u>10 items</u>
221	When a person wrongs his fellowman, he sins against God.	
222	I have found a way of life that gives me direction.	
223	Persons who practise restraint and self control are to be admired.	
225	The kind of moral decisions I make now will affect my future happiness.	
226	My beliefs and values are still very much influenced by what I was taught when I was younger.	
227	God helps me decide what is right or wrong behavior.	
229	I want to be the kind of person who helps people.	
231	What is right or wrong is only one man's opinion.	
233	It is no one else's business if someone wants to do what harms him.	
239	My understanding of myself is strongly influenced by experiences and feelings I had when I was younger.	

The choice of answers is:

SA - Strongly Agree	D - Disagree
A - Agree	SD - Strongly Disagree
N - Not Sure	

On this scale, there was a significant difference on Factor A: Achievement and on Factor C: Grade. The results indicate that achievers ($\bar{X} = 47.84$) seem to indicate a greater sense of moral responsibility than their underachieving counterparts ($\bar{X} = 44.36$). Achievers reflect a sense of involvement in life by accepting a God-given responsibility for others. The underachievers retreat to a privatism where they believe they are responsible solely for themselves.

TABLE 4.7
THREE-WAY ANOVA FOR SCALE #14
MORAL RESPONSIBILITY

SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	F RATIO
A: Achievement	481.36	1	481.36	6.72*
B: Sex	247.34	1	247.34	3.42
C: Grade	351.34	1	351.92	4.91*
AB: Interaction	97.78	1	97.78	1.37
AC: Interaction	62.26	1	62.26	0.87
BC: Interaction	91.68	1	91.68	1.28
ABC: Interaction	165.77	1	165.77	2.31
Error:	10816.38	151	71.63	

*p<.05

TABLE 4.8
MEANS AND SAMPLE SIZES FOR MORAL RESPONSIBILITY
CLASSIFIED BY ACHIEVEMENT
Factor A: Achievement

A	U
<div>N = 81</div> <div>\bar{X} = 47.84</div>	<div>N = 78</div> <div>\bar{X} = 44.36</div>

TABLE 4.9
MEANS AND SAMPLE SIZES FOR MORAL RESPONSIBILITY
CLASSIFIED BY GRADE
Factor C: Grade

9	12
<div>N = 101</div> <div>\bar{X} = 44.81</div>	<div>N = 58</div> <div>\bar{X} = 48.43</div>

The fact that achievers show more responsibility in regard to their school performance may reflect a general maturity which is superior to that of underachievers.

The results also indicate that grade twelve students ($\bar{X} = 48.43$) have a greater sense of responsibility for becoming involved in life with others than do grade nine students ($\bar{X} = 44.81$). This result is not unexpected in the sense that students who are older and presumably more mature would be more accepting of such responsibility.

Scale #15, Meaningful Life, reflects a life style that accords importance to such life goals as serving others, ethical behavior, wisdom, honesty, giving and receiving love, forgiveness, family happiness, and meaningful work. A low score points to a contrasting life style characterized by goals that are hedonistic and self-centered, giving priority to money, power, pleasure, recognition. The items and their numbers on the Youth Research Survey follow:

<u>Item No.</u>	<u>Scale #15 Meaningful Life</u>	<u>17 items</u>
241	Adventure (exploration, risks, danger).	
242	Service (devotion to the interest of others).	
243	Recognition (being important, being well-liked).	
244	Ethical life (responsible living towards others).	
245	Meaningful work (sense of purpose, a job that is relevant).	
246	Wisdom (mature understanding, insight).	
247	Pleasure (exitement, satisfaction, fun).	
248	Honesty (being frank and genuinely yourself with everyone).	
249	Personal freedom (independence, making own choices).	
250	Money (plenty of money for things I want).	

- 251 Personal Power (having influence and authority over
 others).
- 252 Religion (religious belief, relationship with God,
 meaning in life).
- 253 Love (warmth, caring, giving and receiving of love).
- 254 Physical appearance (attractiveness).
- 258 Skill (being good at doing something important to me).
- 259 Forgiveness (being willing to pardon others).
- 260 Family happiness (mutual caring among family members).

The choice of answers is:

E - Extremely Important

S - Somewhat Important

Q - Quite Important

L - Less Important

On this scale, there was a significant difference on all the three factors - achievement, sex and grade. Achieving students, females and twelfth graders scored significantly higher on this scale than did the underachievers, males and ninth graders respectively. The results seem to indicate that achievers in school feel more comfortable with the status quo and reflect this in their scores and possibly their feeling towards accepted values in the community in general. The higher scores for females reflect a commonly accepted fact that girls are more traditional in their expectations from life than boys. Girls seem to stress family happiness, giving and receiving love, serving others etc. while the boys are more ambitious, hedonistic, power-seeking etc. than girls. Finally, twelfth graders were more traditional than were ninth graders. This result was more surprising as it was

TABLE 4.10
THREE-WAY ANOVA FOR SCALE #5
MEANINGFUL LIFE

SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	F RATIO
A: Achievement	1496.18	1	1496.18	16.92**
B: Sex	1525.59	1	1525.59	17.25**
C: Grade	359.29	1	359.29	4.06*
AB: Interaction	36.58	1	36.58	0.41
AC: Interaction	12.44	1	12.44	0.14
BC: Interaction	91.25	1	91.25	1.03
ABC: Interaction	41.93	1	41.93	0.47
Error:	13354.31	151	88.44	

*p<.05

**p<.01

TABLE 4.13
MEANS AND SAMPLE SIZES FOR MEANINGFUL LIFE
CLASSIFIED BY GRADE
Factor C: Grade

9

12

<div>N = 101</div> <div>\bar{X} = 46.98</div>	<div>N = 58</div> <div>\bar{X} = 51.00</div>
--	---

expected that the younger students would hold more closely to the values traditionally associated with their homes, church and school. The students in their later teens would be expected to be thinking more independently and perhaps veering away from the more accepted mores of home, church and community towards more individualistic goals. The fact that the older students did not show these characteristics may be explained to some degree by the environment from which they came - a mining town - and the possibility that these students are able to face realities and accept them. The possibility of attaining the materialistic goals of a life-style characterized by attainment of plenty of money, personal power, pleasure and excitement is probably so remote as to be unrealistic and the older students know this while the younger ones do not. Another possible explanation for the results is that the ninth grade students have not weighed the real worth of such abstract entities such as wisdom and honesty against the tangibles of money and pleasure. Since the latter are more easily understood and the younger students may have, quite understandably, chosen these.

Scale #16, Religious Participation, assesses the degree of youth's involvement in activities of the institutional church and indicates his general acceptance of beliefs and values. The items and their number on the Youth Research Survey follow:

<u>Item No.</u>	<u>Scale #16 Religious Participation</u>	<u>13 items</u>
183	From the money I get, I give to charity or church _____.	
186	During the last six months, I have prayed privately _____.	
187	During the past six months, I have read the Bible _____.	
190	During the past six years, I have gone to Church _____.	

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183	From the money I get, I give to charity or church _____.	
186	During the last six months, I have prayed privately _____.	
187	During the past six months, I have read the Bible _____.	
190	During the past six years, I have gone to Church _____.	

The choice of answers for these 4 questions is:

- | | |
|----------------------------|---|
| A - Several Times a Week | D - About an Average of
Once A Month |
| B - About Once a Week | E - Rarely |
| C - About Every Other Week | F - Not At All |

- 206 I attend a class of religious instruction (Sunday, weekday) more than half the time.
- 208 Family devotions (prayers) are held regularly in my home.
- 211 I attend youth group meetings of my Church more than half the time.
- 216 I participate in at least one youth activity in our Church (choir, youth group, Sunday classes, acolyte) one half of the time or more.

The choice of answer for these 4 questions is:

YES NO

- 296 Which of thes statements best tells what you believe about God.

The choice of answers is:

- N - I believe there is a God.
- NL - Though I doubt, I believe in God.
- V - I believe in God some of the time, but not at all times.
- Q - I believe in a higher power but not in a personal God.
- S - I don't know if there is a God.
- L - I don't believe in God.

- 297 Which of these statements best tells what you believe

about Jesus?

The choice of answers is:

N - I am happy with my Church.

NL - I am quite happy with it, but I have a few complaints.

V - There are many things which I do not like about
it, but in some ways I am happy with it.

Q - I am not happy with my Church.

S - I do not have much feeling one way or the other.

L - I do not associate with a church.

298 All in all, how do you feel about your Church?

The choice of answers is:

N - I am happy with my Church.

NL - I am quite happy with it, but I have a few complaints.

V - There are many things which I do not like about it.

Q - I am not happy with my Church.

S - I do not have much feeling one way or the other.

L - I do not associate with a church.

299 How important is your faith to you?

The choice of answers is:

N - Very Important Q - Not too important

NL - Quite Important S - Unimportant

V - Somewhat Important L - I haven't thought about it.

300 To what extent are you inspired by the worship services
in your Church?

The choice of answers is:

N - Never inspired, only bored

NL - No longer inspired, but I once was.

TABLE 4.14
THREE-WAY ANOVA FOR SCALE #16
RELIGIOUS PARTICIPATION

SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	F RATIO
A: Achievement	66.76	1	66.76	0.67
B: Sex	889.47	1	889.47	8.92**
C: Grade	234.32	1	234.32	2.35
AB: Interaction	1.54	1	1.54	0.02
AC: Interaction	46.97	1	46.97	0.47
BC: Interaction	10.92	1	10.92	0.11
ABC: Interaction	61.29	1	61.29	0.61
Error:	15064.75	151	99.77	

**p<.01

TABLE 4.15
MEANS AND SAMPLE SIZES FOR RELIGIOUS PARTICIPATION
CLASSIFIED BY SEX
Factor B: Sex

M	F
<div>N = 87</div> <div>\bar{X} = 42.40</div>	<div>N = 72</div> <div>\bar{X} = 47.25</div>

V - Very often inspired

Q - Quite often inspired.

S - Sometimes inspired.

L - Seldom inspired.

On this scale, there was a significant sex difference. The results reflect the generally accepted phenomenon that females ($\bar{X} = 47.25$) are more religiously oriented than males ($\bar{X} = 42.40$). Women are more likely than men to be ritually involved in the church, religious experience, particularism and active participation in the activities of the church. The females in the present study ($\bar{X} = 47.25$) demonstrated that they too are more involved in the activities of the institutionalized church and profess a general acceptance of the declared beliefs and values of the church than do the male subjects ($\bar{X} = 42.40$). The difference was highly significant for the two groups of all Roman Catholic students. The findings might indicate a different form of or change in religious commitment on the part of the males, for example, an indication of an ethicalism on the part of the males rather than on traditional beliefs as is the case of the females. If the response of the males is indicative of decline rather than change, however, the implication for the institutionalized church is serious. Churches cannot survive as institutions unless people participate and support them, and males, as the heads of families, could be extremely influential in the very near future on the state of the Church.

Scale #18, Self-Regard, measures the degree to which youth accept themselves as persons of worth and promise. The items and their numbers on the Youth Research Survey follow:

<u>Item No.</u>	<u>Scale #18 Self-Regard</u>	<u>13 items</u>
1	On the whole I am satisfied with myself.	
2	I feel that I have a number of good qualities.	
7	I am as capable as the next person my age.	
9	I feel I do not have much to be proud of.	
11	I feel a sense of purpose in my life.	
13	I tend to be lonely.	
14	I feel my future is in good hands.	
15	I feel I am worth something as a person.	
16	I wish I had more respect for myself.	
17	I feel no one knows the real me.	
18	I hold a positive attitude toward myself.	
19	I have a feeling I will not live very long.	
20	I find life exciting and full of fun.	

The choice of answers is:

YES NO

On this scale, the males scored significantly higher ($\bar{X} = 52.85$) on the opinion they have of themselves - their self-confidence and self-esteem - than did the females ($\bar{X} = 49.33$). The boys indicated a more positive acceptance of themselves as persons. The implications for counsellors and curriculum builders in the area of values education is important. There seems to be a decided need for ego-building among the girls as they also indicated greater concern about themselves (Scale #7) which could undermine their overall psychological development if this lack of self-confidence and poor self-image continues to grow. This means that girls should be helped to be more acceptant of themselves and to value themselves as persons of worth and promise.

TABLE 4.16
THREE-WAY ANOVA FOR SCALE #18
SELF-REGARD

SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	F RATIO
A: Achievement	149.63	1	149.63	1.38
B: Sex	613.43	1	613.43	5.67*
C: Grade	67.89	1	67.89	0.63
AB: Interaction	153.98	1	153.98	1.42
AC: Interaction	74.80	1	74.80	0.69
BC: Interaction	164.07	1	164.07	1.52
ABC: Interaction	2.23	1	2.23	0.02
Error:	16350.88	151	108.28	

* $p < .05$

TABLE 4.17
MEANS AND SAMPLE SIZES FOR SELF-REGARD
CLASSIFIED BY SEX
Factor B: Sex

M	F
<div>N = 87</div> <div>\bar{X} = 52.85</div>	<div>N = 72</div> <div>\bar{X} = 49.33</div>

Scale #20, God Awareness, allows for a positive affirmation of faith indicating the extent to which youth are aware of God in their lives and believe He is an ever-present reality. The items and their numbers in the Youth Research Survey follow:

<u>Item No.</u>	<u>Scale #20 God Awareness</u>	<u>15 items</u>
279	I pray for people who I feel especially need God's help.	
381	I believe in life after death.	
383	To know Christ is to know God.	
384	God hears our prayers.	
387	For eternity every person is either with God or in hell.	
388	I believe in the dignity of man but I do not believe in God.	
393	I believe that there is a personal God.	
400	I believe that God cares for me in a special way.	
401	I believe I am forgiven by God.	
411	I believe I am forgiven by God even when I sin.	
414	I have had feelings of being in the presence of God	
416	I have a sense of being saved in Christ.	
417	In religious matters I would have to be called a skeptic or an agnostic.	
419	I have a sense that my prayers have been answered by God.	
420	I have a sense of sharing in a great purpose.	

The choice of answers is:

YES NO ?

The results for this scale showed a significant difference on Factor B (sex) and C (grade level). Males had a lower mean

TABLE 4.18
THREE-WAY ANOVA FOR SCALE #20
GOD AWARENESS

SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	F RATIO
A: Achievement	1.22	1	1.22	0.01
B: Sex	1575.16	1	1575.16	15.44**
C: Grade	477.63	1	447.63	4.39*
AB: Interaction	287.04	1	287.04	2.81
AC: Interaction	9.93	1	9.93	0.10
BC: Interaction	149.06	1	149.06	1.46
ABC: Interaction	24.25	1	24.25	0.24
Error:	15401.94	151	102.00	

*p<.05

**p<.01

TABLE 4.19
MEANS AND SAMPLE SIZES FOR GOD AWARENESS
CLASSIFIED BY SEX
Factor B: Sex

M	F
<div>N = 87 \bar{X} = 40.49</div>	<div>N = 72 \bar{X} = 46.78</div>

TABLE 4.20
MEANS AND SAMPLE SIZES FOR GOD AWARENESS
CLASSIFIED BY GRADE
Factor C: Grade

9	12
<div>N = 101 \bar{X} = 44.67</div>	<div>N = 58 \bar{X} = 41.02</div>

($\bar{X} = 40.49$) than females ($\bar{X} = 46.78$). Also, twelfth grade students had a lower mean ($\bar{X} = 41.02$) than ninth graders ($\bar{X} = 44.67$). God Awareness could be looked at as the extent to which these groups are aware of God in their life and believe He is an ever-present reality, of the reality of life after death and of the power of prayer. This sex difference was not unexpected and shows a consistency that the traditional approach to religious beliefs is stronger in women than in their male counterparts. The fact that twelfth graders scored lower than ninth graders may reflect a more questioning attitude on the part of the older students in regard to religious beliefs. The difference in the results on grade levels on this scale and on Scale #15 illustrate that students see a difference between humanistic values on that scale and the religious beliefs which are measured on this scale. The older grade twelve students are probably at a time in their lives when they are seriously questioning the religious beliefs of the institutional church and see these in a quite different way from the practical approach to life.

B. Scales with Interaction Effect(s) Present

On ten of the twenty-one scales, interactions were found. Where an interaction is present, simple main effects for the two interacting factors are calculated and examined. Since the overall main effect for them have no meaning, student's "t" was calculated to determine the significance of the simple main effects. The results were examined and interpreted. In those cases where a scale had only one interaction, one factor had to be non-interactive. The F ratio for such a factor does have meaning and interpretability and is dealt with as such.

The meaning of what is reflected in each scale, its items, and their serial numbers as found in the Youth Research Survey are given first, followed by the analyses, the inferences and interpretations.

The mathematical computations for the simple main effects related to the interacting factors are given in detail only for Scale #1, Family Unity. For the remaining scales, only a statement relating to the significance of a given simple main effect is given.

Scale #1, Family Unity, reflects a young person's concern and anxiety over the emotional climate within the home: lack of closeness and togetherness of family members, lack of understanding and consideration for one another and the quality of interaction between parents and children. There are ten items on this scale. Higher scores indicate more concern. The test items with their serial numbers from the Youth Research Survey follow:

<u>Item No.</u>	<u>Scale #1 Family Unity</u>	<u>10 items</u>
	<u>I am bothered by the fact that:</u>	
21	We are not close as members of a family.	
32	We need a greater feeling of love in our family.	
39	There are not enough social activities in my home.	
48	My family is not as happy as I wish it were.	
67	The members of my family are not considerate of each other.	
74	My father and mother do not get along as they should.	
84	My father is not as interested in me as I would like.	
91	I do not understand my parents.	
97	My mother is not as interested in me as I would like.	

TABLE 4.21
THREE-WAY ANOVA FOR SCALE #1
FAMILY UNITY

SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	F RATIO
A: Achievement	104.73	1	104.73	0.91
B: Sex	196.34	1	196.34	1.71
C: Grade	33.08	1	33.08	0.29
AB: Interaction	412.68	1	412.68	3.60
AC: Interaction	613.51	1	613.51	5.36*
BC: Interaction	0.64	1	0.64	0.01
ABC: Interaction	72.95	1	72.95	0.64
Error:	17299.38	151	114.57	

* $p < .05$

TABLE 4.22
MEANS AND SAMPLE SIZES FOR FAMILY UNITY
CLASSIFIED BY ACHIEVEMENT AND GRADE
Factor A: Achievement

		A	U
Factor C: Grade	9	N = 44 $\bar{X}_{1.1} = 51.09$	N = 57 $\bar{X}_{2.1} = 49.46$
	12	N = 37 $\bar{X}_{1.2} = 46.27$	N = 21 $\bar{X}_{2.2} = 53.33$

Difference between 9th and 12th grade achievers: Comparison of
t = 5.42 significant $\bar{X}_{1.1}$ and $\bar{X}_{1.2}$

Difference between 9th and 12th grade underachievers: Comparison of
t = 1.42 non significant $\bar{X}_{2.1}$ and $\bar{X}_{2.2}$

Difference between Grade 9 achievers and underachievers: Comparison of
t = 1.66 non significant $\bar{X}_{1.1}$ and $\bar{X}_{2.1}$

Difference between Grade 12 achievers and underachievers: Comparison of
t = 3.82 significant $\bar{X}_{1.2}$ and $\bar{X}_{2.2}$

Tests of significance for the difference between the mean scores of achievers and underachievers at the ninth grade level and twelfth grade level were set up, with the following results.

$$\begin{aligned}
 A_1C \quad t &= \frac{51.09 - 46.24}{\sqrt{\left(\frac{1}{44} + \frac{1}{37}\right) \times 114.57}} \\
 &= \frac{4.85}{\sqrt{.0497 \times 114.57}} \\
 &= \frac{4.85}{\sqrt{5.69}} \\
 &= \frac{4.85}{2.38}
 \end{aligned}$$

$t = 2.03$ significant

$$\begin{aligned}
 A_2C \quad t &= \frac{53.33 - 49.46}{\sqrt{\left(\frac{1}{57} + \frac{1}{21}\right) \times 114.57}} \\
 &= \frac{4.85}{\sqrt{.0651 \times 114.57}} \\
 &= \frac{3.87}{\sqrt{7.45}} \\
 &= \frac{3.87}{2.73}
 \end{aligned}$$

$t = 1.42$ non significant

$$\begin{aligned}
 AC_1 \quad t &= \frac{51.09 - 49.46}{\sqrt{\left(\frac{1}{44} + \frac{1}{57}\right) \times 114.57}} \\
 &= \frac{1.63}{\sqrt{.0404 \times 114.57}} \\
 &= \frac{1.63}{\sqrt{4.62}} \\
 &= \frac{1.63}{2.15}
 \end{aligned}$$

$t = 0.76$ non significant

$$\begin{aligned}
 AC_2 \quad t &= \frac{53.33 - 46.24}{\sqrt{\left(\frac{1}{37} + \frac{1}{21}\right) \times 114.57}} \\
 &= \frac{7.09}{\sqrt{.0746 \times 114.57}} \\
 &= \frac{7.09}{\sqrt{8.55}} \\
 &= \frac{7.09}{2.92}
 \end{aligned}$$

$t = 2.44$ significant

We do not do things together as a family.

The choice of answers is:

N - Never Bothered	NL - No Longer Bothered
V - Very Much Bothered	Q - Quite a Bit Bothered
S - Somewhat Bothered	L - Very Little Bothered

The results of three-way ANOVA (Table 4.21) for this scale showed significant interaction between achievement and grade using Family Unity as criterion. Because of this interaction (Figure 4.1), simple main effects were calculated and the results for overall main effects of the two interacting factors were disregarded. The results of the calculations for simple main effects are given in Table 4.22. Two of the four simple main effects were significant. They are described below.

1. There was a significant difference between ninth grade achievers ($\bar{X} = 51.09$) and twelfth grade achievers ($\bar{X} = 46.27$). The former showed greater concern about Family Unity than did the latter. A happy united family which gives young people a feeling of stability and of being loved seems to be a strong motivational factor in achievement whereas the broken home may not be able to provide this much-needed psychological support (O'Neil and Alexander, 1971). The fact that younger achieving students were much more concerned about the emotional climate in the home than were the older achievers might reflect the latter's more mature attitude towards such problems, the fact that they have lived with them longer and have perhaps come to terms with the situation. The younger students are at an age when they are more sensitive to such problems and are not mature enough to handle them. Their close identity with the home may lead to a fear of others'

Family Unity Scale #1

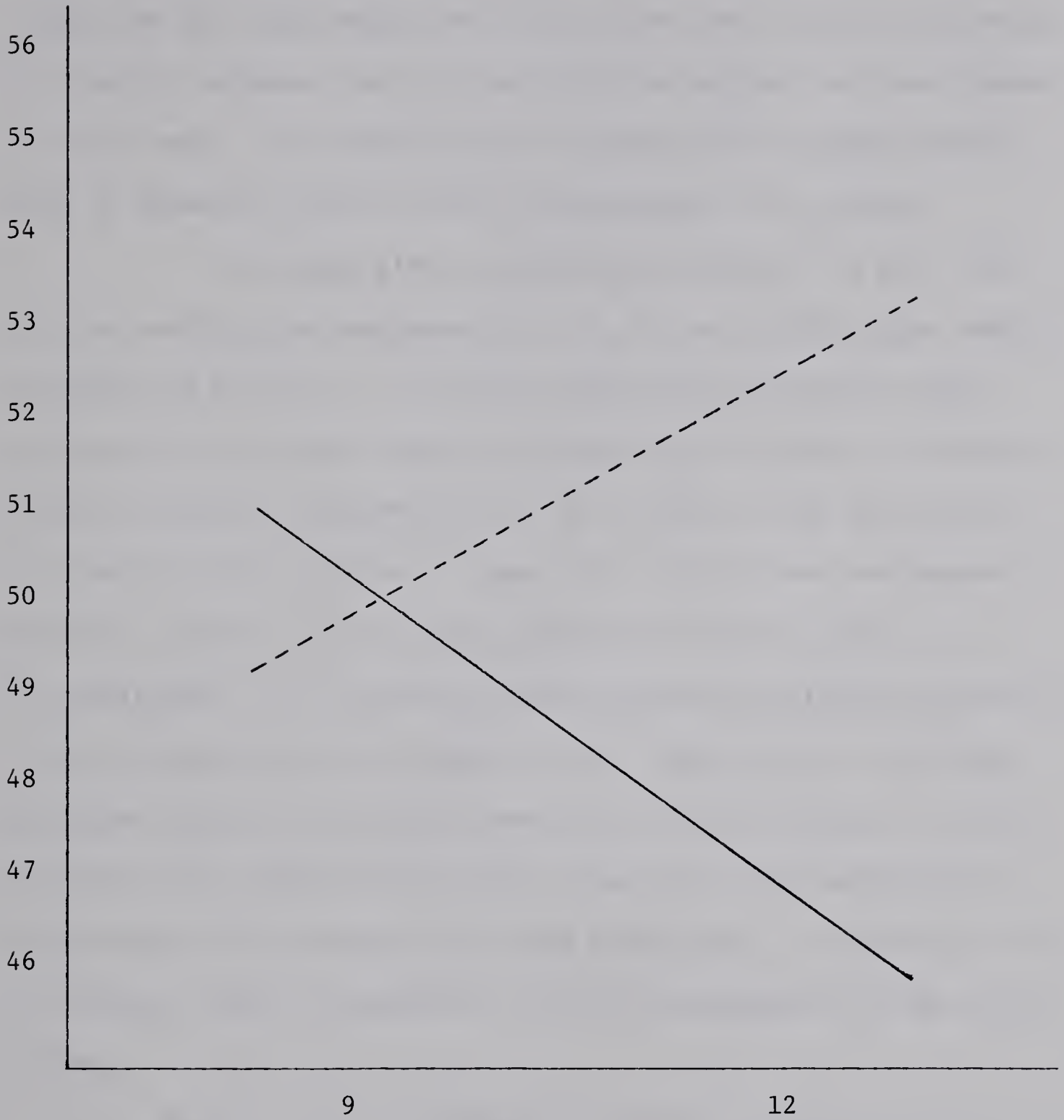


Figure 4.1

Interaction of achievement and grade
using Family Unity as the criterion.

Achievers _____

Underachievers - - - - -

knowing their home and family problems. It may also be that this particular group of grade twelve achievers has better family unity.

Indeed the fact that they have reached grade twelve and are achieving well may be evidence that this psychological support has been present in their homes. The results seem to indicate that academic achievement is associated with the family background of the student.

2. There was also a significant difference on this scale between twelfth grade achievers ($\bar{X} = 46.27$) and twelfth grade under-achievers ($\bar{X} = 53.33$). The results show that grade twelve under-achievers have a higher degree of concern over the lack of closeness, understanding and consideration for one another in the home than do the twelfth grade achievers. Again, the unstable home environment is possibly a factor in the underachievement of these students as a favorable home climate understandably influences achievement positively. It may be hypothesized that fear or worry about the home situation militates against the student's working up to his ability. In fact, perhaps, these underachievers have lacked the normal emancipation from parents which achievers may have experienced, a possibility which, if correct, might be indicative of certain inadequacies in the family milieu.

The pressures identified in Scale #3, Family Pressures, are those which tend to intensify negative reactions in the home. They include such difficulties as divorce, separation, illness, financial problems, tragedy and parent-child conflict. There are seven items on the scale. The higher scores indicate a high degree of concern over these family difficulties. The items on the scale, and the type of response options follow:

<u>Item No.</u>	<u>Scale #3 Family Pressures</u>	<u>7 items</u>
202.	My parents are separated (divorced).	
204	I am frequently ill.	
205	Financial troubles create difficulties in my home.	
209	I have trouble getting along with my father.	
210	I have trouble getting along with my mother.	
217	My father is seldom at home.	
220	We have had serious difficulties in our home (prolonged illness, unemployment, death or injuries, personal problems) during the past years.	

The choice of answers is:

YES NO

The results of the three-way ANOVA for this scale (Table 4.23) showed a significant interaction between achievement and sex using family pressures as criterion. The achieving male students showed more concern in this regard than did the achieving females while the reverse seemed to true for the underachieving students of the two sexes. This is clear from Table 4.23 and Figure 4.2. Because of this interaction, simple main effects for sex and achievement were calculated and the results for the overall main effects for these interacting factors were disregarded. Only one of the four simple main effects was found to be significant.

Female underachievers ($\bar{X} = 52.93$) seem to be experiencing a significantly higher number of difficulties in the area of family pressures than do male underachievers ($\bar{X} = 48.22$). The results of this study understandably suggest that the underachieving girls are more personally affected by home problems than are the underachieving

TABLE 4.23
THREE-WAY ANOVA FOR SCALE # 3
FAMILY PRESSURES

SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	F RATIO
A: Achievement	11.06	1	11.06	0.12
B: Sex	64.85	1	64.85	0.71
C: Grade	484.11	1	484.11	5.30*
AB: Interaction	382.46	1	382.47	4.19*
AC: Interaction	13.04	1	13.04	0.14
BC: Interaction	18.53	1	18.53	0.20
ABC: Interaction	561.28	1	561.28	6.15
Error:	13787.69	151	91.31	

* $p < .05$

TABLE 4.24
MEANS AND SAMPLE SIZES FOR FAMILY PRESSURES
CLASSIFIED BY ACHIEVEMENT AND SEX
Factor A: Achievement

		A	U
Factor B: Sex	M	N = 37 $\bar{X}_{11.} = 50.32$	N = 50 $\bar{X}_{21.} = 48.22$
	F	N = 44 $\bar{X}_{12.} = 48.59$	N = 28 $\bar{X}_{22.} = 52.93$

Difference between achieving males and females: Comparison of
t = 0.81 non significant $\bar{X}_{11.}$ and $\bar{X}_{12.}$

Difference between underachieving males and females: Comparison of
t = 2.08 significant $\bar{X}_{21.}$ and $\bar{X}_{22.}$

Difference between all underachieving males: Comparison of
t = 1.02 non significant $\bar{X}_{11.}$ and $\bar{X}_{21.}$

Difference between all underachieving females: Comparison of
t = 1.88 non significant $\bar{X}_{12.}$ and $\bar{X}_{22.}$

boys. The results are perhaps in keeping with cultural expectations. The underachieving boys, by contrast, have more ways of escaping the pressures of family instability. Their interests may be diverted to sports, part-time jobs, etc. which take them out of the home, away from the problem and away from this anxiety-creating environment. Because they are more occupied outside the home, the intensity of their concern over the problems within it may be lessened. What is implied here is that underachieving girls probably have a greater concern over family difficulties, not necessarily because the problems are greater but because the major interests and concerns of the girls are more home-directed than those of the boys. For the underachieving girls, their lack of school achievement might not be due as much to inability to concentrate as to a lack of will to do well. The underachieving boys, however, seem to have reasons other than lack of concentration due to home problems for their underachievement. Perhaps, their lack of concentration in school may be traced to too much involvement in activities outside of the home. Again, the low achieving boys may be in a sense more realistic than the low achieving girls. They may know and accept the fact that they have little, if any, control over such problems and, even less, over resolving them. Given this reasoning, the underachieving boys might simply refuse to let themselves be overly-influenced by these difficulties.

As can be seen from Table 4.25 there was a significant difference between the two grade levels (Factor C) in regard to Family Pressures. The twelfth grade students showed significantly more concern ($\bar{X} = 48.41$) over home problems - divorce, separation, illness, financial difficulties, etc. - than did the ninth graders ($\bar{X} = 45.31$).

TABLE 4.25
 MEANS AND SAMPLE SIZES FOR FAMILY PRESSURES
 CLASSIFIED BY GRADE
 Factor C: Grade

9

12

$N = 101$ $\bar{X}_{..1} = 45.31$	$N = 58$ $\bar{X}_{..2} = 48.41$
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Family Pressure Scale #3

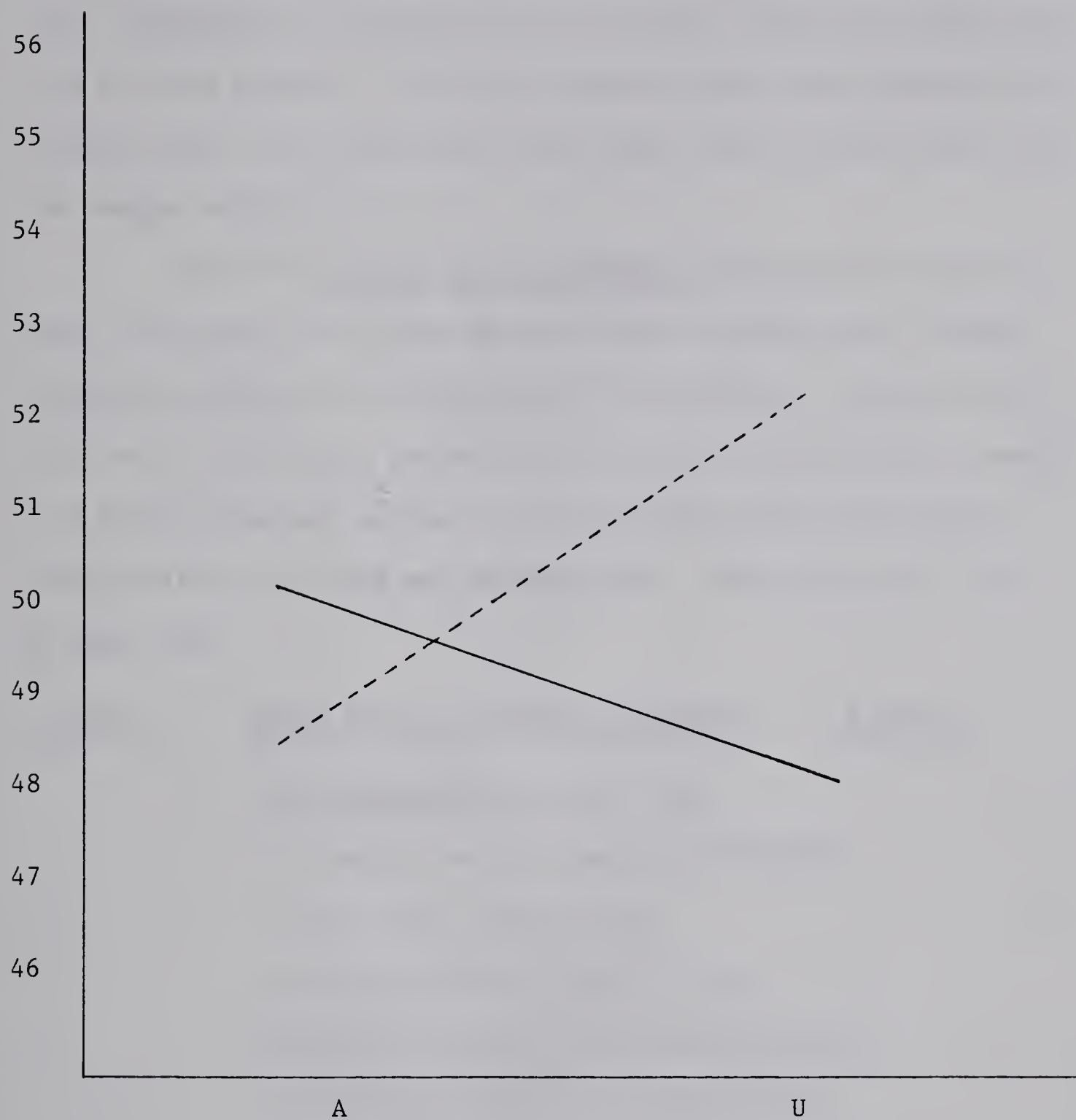


Figure 4.2
Interaction of achievement and Sex
Using Family Pressures as Criterion

Males _____

Females - - - - -

The older students probably are more sensitive to the home situations and know more about these problems. They are nearing adulthood and these situations are possibly not only sensed by them but shared with them by their parents. The older students having such knowledge would naturally have a greater concern over these family matters than would the younger students.

Scale #5, Lack of Self-Confidence, measures the extent to which the young person feels uncertain about himself and is afraid of making mistakes or exposing himself to ridicule. A high score on this scale identifies a person who tends to be self-conscious, uneasy in a group situation, anxious to please others and overly-eager to avoid occasions where he may be embarrassed. There are eight items on this scale:

<u>Item No.</u>	<u>Scale #5 Lack of Self-Confidence</u>	<u>8 items</u>
	<u>I am bothered by the fact that</u>	
23	I am easily carried away by my emotions.	
33	I worry about little things.	
38	I am too anxious to please others.	
44	I lack confidence when reciting in class.	
52	I am afraid of failure or humiliation.	
55	I lack the personality and the ability to be a leader in a group.	
61	I am afraid of making mistakes.	
78	My feelings are easily hurt.	

The choice of answers is:

N - Never Bothered

Q - Quite a Bit Bothered

TABLE 4.26
THREE-WAY ANOVA FOR SCALE #5
LACK OF SELF-CONFIDENCE

SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	F RATIO
A: Achievement	92.55	1	92.55	1.16
B: Sex	2387.26	1	2387.26	29.96**
C: Grade	10.34	1	10.34	0.13
AB: Interaction	348.25	1	348.25	4.37*
AC: Interaction	546.65	1	546.65	6.86**
BC: Interaction	0.53	1	0.53	0.01
ABC: Interaction	8.19	1	8.19	0.10
Error:	12032.25	151	79.68	

*p<.05

**p<.01

Scale #5 Lack of Self-Confidence

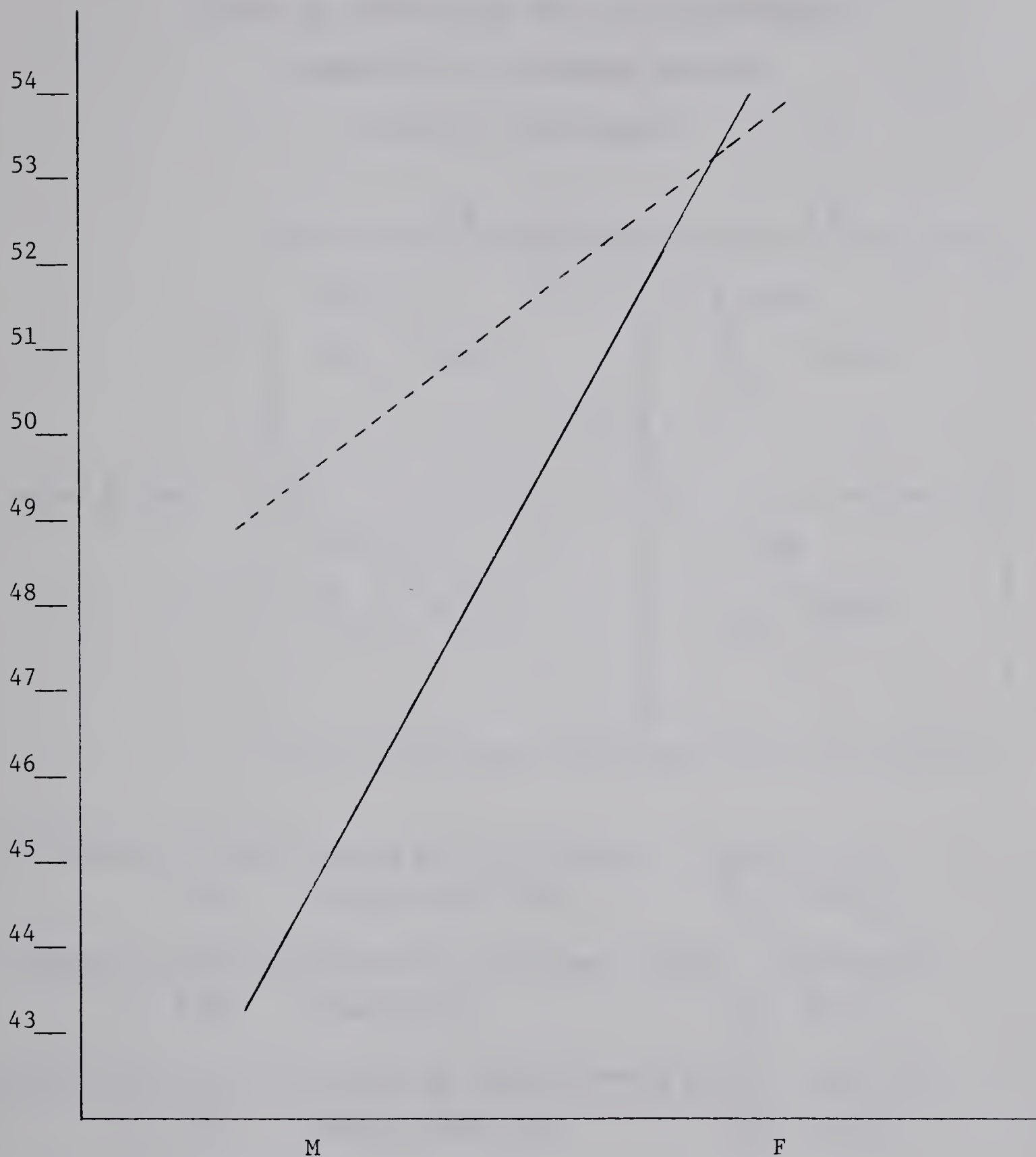


Figure 4.3

Interaction of Achievement and Sex
Using Lack of Confidence as Criterion

Achievers _____

Underachievers -----

TABLE 4.27
MEANS AND SAMPLE SIZES FOR LACK OF CONFIDENCE
CLASSIFIED BY ACHIEVEMENT AND SEX

Factor A: Achievement

		A	U
Factor B: Sex	M	N = 37 $\bar{X}_{11.} = 43.49$	N = 50 $\bar{X}_{21.} = 49.18$
	F	N = 44 $\bar{X}_{12.} = 54.27$	N = 28 $\bar{X}_{22.} = 53.89$

Difference between achieving males and females: Comparison of
t = 5.42 highly significant $\bar{X}_{11.}$ and $\bar{X}_{12.}$

Difference between underachieving males and females: Comparison of
t = 2.23 significant $\bar{X}_{21.}$ and $\bar{X}_{22.}$

Difference between achieving and underachieving males: Comparison of
t = 2.99 highly significant $\bar{X}_{11.}$ and $\bar{X}_{21.}$

Difference between achieving and underachieving females: Comparison of
t = 0.18 non significant $\bar{X}_{12.}$ and $\bar{X}_{22.}$

NL - No Longer Bothered S - Somewhat Bothered
 V - Very Much Bothered L - Very Little Bothered

The results of three-way ANOVA for this scale (Table 4.25) showed significant interaction between achievement and sex in regard to self-confidence. Because of the interaction, the results for overall main effects for the two interacting factors were disregarded. Simple main effects for sex and achievement levels were calculated. The results appear in Table 4.27. Three of the four simple main effects were significant.

1. Male achievers ($\bar{X} = 43.49$) have less concern about lack of self-confidence in themselves than do female achievers ($\bar{X} = 54.27$). It would seem that the female achievers are more afraid of making mistakes and of taking risks, than are the male achievers. The female achievers in this study seem to be more self-conscious, more uneasy in group situation, more anxious to please others and overly eager to avoid occasions which might cause embarrassment than were the male achievers.

2. The results were similar to male underachievers ($\bar{X} = 49.18$) and female underachievers ($\bar{X} = 53.89$). Male underachievers were significantly more self-confident than were their female counterparts. These findings would seem to reflect the cultural expectation from males: higher risk-taking, ability to give and take in group situations more easily than do females.

3. It is also noted that male underachievers ($\bar{X} = 49.18$) are more concerned about lack of self-confidence than are the male achievers ($\bar{X} = 43.49$). Again, this result is not unexpected. Good academic achievement has been identified (Allport, 1961) with a

Scale #5 Lack of Self-Confidence

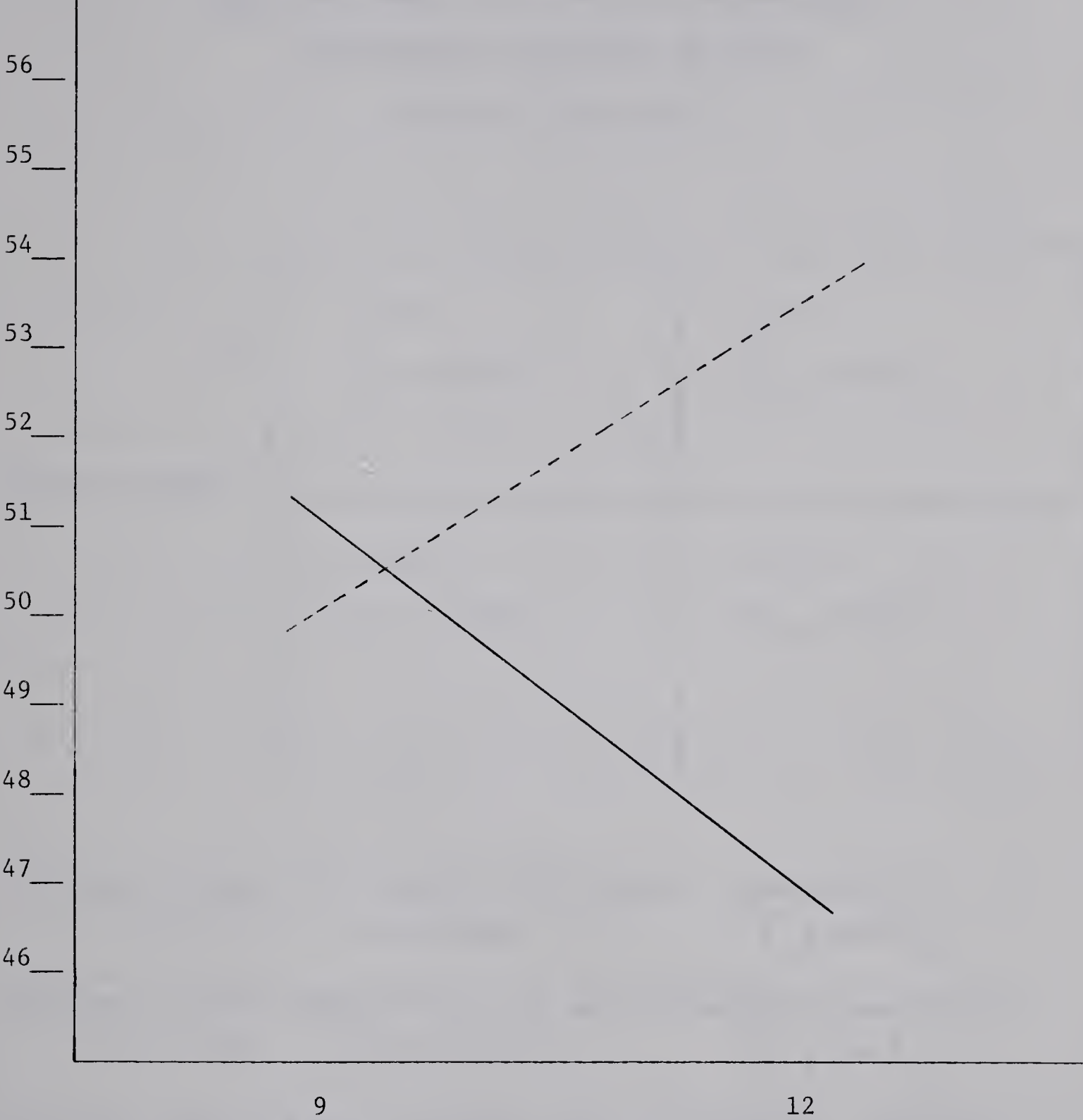


Figure 4.4
Interaction of Achievement and Grade
Using Lack of Self-Confidence as Criterion

Achievers _____

Underachievers -----

TABLE 4.28
MEANS AND SAMPLE SIZES FOR LACK OF CONFIDENCE
CLASSIFIED BY ACHIEVEMENT AND GRADE

Factor A: Achievement

		A	U
Factor C: Grade	9	$N = 44$ $\bar{X}_{1.1} = 51.41$	$N = 57$ $\bar{X}_{2.1} = 49.84$
	12	$N = 37$ $\bar{X}_{1.2} = 46.98$	$N = 21$ $\bar{X}_{2.2} = 53.67$

Difference between achieving 9th and 12 graders: Comparison of
 $t = 2.27$ significant $\bar{X}_{1.1}$ and $\bar{X}_{1.2}$

Difference between underachieving 9th and 12th graders: Comparison of
 $t = 1.68$ non significant $\bar{X}_{2.1}$ and $\bar{X}_{2.2}$

Difference between grade 9 achievers and underachievers: Comparison of
 $t = 0.88$ non significant $\bar{X}_{1.1}$ and $\bar{X}_{2.1}$

Difference between grade 12 achievers and underachievers: Comparison of
 $t = 2.78$ significant $\bar{X}_{1.2}$ and $\bar{X}_{2.2}$

feeling of self-confidence about one's self and one's work.

The results of the three-way ANOVA (Table 4.26) for this scale also showed a significant interaction between achievement and grade level in regard to self-confidence. Because of this interaction, simple main effects for grade and achievement levels were calculated. The results of these calculations appear in Table 4.28.

Two out of the four simple main effects were found significant.

1. The results demonstrated an expected relationship between these two factors in regard to concern over lack of self-confidence, with the ninth grade achievers showing more concern about it than twelfth grade achievers. The result is probably a function of age level. The older achievers who have done well rather consistently would naturally feel more confident in themselves, in their relationships in school and in their work than would the ninth grade achievers. The latter group is on the threshold to high school grades, is about to make fairly serious decisions which will influence school programs and preparation for post-school pursuits. The twelfth grade achievers have already come through the high school years and have done well.

2. Grade twelve underachievers were found to be more concerned over lack of self-confidence than were grade twelve achievers. Evidently achievement was an important factor in the feeling of self-confidence at the senior level. These two groups were in their final year in school, both had high scholastic ability but the achievement levels were different. The success in the school milieu would probably give the twelfth grade achievers an edge in their feeling of self-

confidence. Again, the underachievers may have been expected to compensate for their lack of school achievement by projecting themselves as more confident in themselves, less afraid of taking risks and of making mistakes and more at ease in social surroundings. In this study, however, they did not.

Scale #6, Academic Problems, measures the degree to which young people are concerned about the academic aspects of school life. The scale assesses the degree to which the young person is worried about his grade - actual or anticipated - his frustration over not being able to concentrate on school work, and his self-blame over his poor performance. The higher scores indicate more concern experienced by the individual over school problems. There are nine items on the scale. These items and their serial numbers in the Youth Research Survey follow:

<u>Item No.</u>	<u>Scale #6 Academic Problems</u>	<u>9 items</u>
	<u>I am bothered by the fact that:</u>	
25	I have little interest in school studies.	
34	I do not take my studies seriously enough.	
62	I don't know how to study well.	
69	I feel that I am not as smart as others my age.	
70	There are those who are smarter than I am and get better grades	
98	I have difficulty keeping my mind on my studies.	
106	I am not satisfied with the grades I get.	
123	I daydream too much	
	<u>I wonder about:</u>	
131	Whether I have the ability to do college work.	

The choice of answers is:

N - Never Bothered Q - Quite a Bit Bothered

NL - No Longer Bothered S - Somewhat Bothered

V - Very Much Bothered L - Very Little Bothered

The results of the three-way ANOVA for this scale showed a significant interaction between the grade level of student and achievement in regard to Academic Problems (Table 4.29). Because of this interaction, the results for overall main effects for two interacting factors were disregarded. Simple main effects for grade and achievement levels were calculated. The results of these calculations are given in Table 4.30.

The only significant simple main effect was for achieving and underachieving twelfth graders, with means ($\bar{X} = 43.74$) and ($\bar{X} = 52.71$) respectively. Ordinarily, as the young people mature, they become more aware of this role in life. Grade twelve students are aware that soon that adult role will be theirs and that competition for post-secondary education and professional placement will be high. The high ability students who are underachieving cannot be unaware that they could be doing much better and should be doing much better. They are probably realizing that they have wasted time and talent. Because of the direct relationship between twelfth grade achievement and acceptance for post-secondary education, their concern over academic problems is not without good foundation. Where bright under-achievers have high post-school academic and vocational aspirations, the concern over academic problems would probably be more acute in comparison with their achieving classmates considering the amount of work they would have to do to realize such goals.

TABLE 4.29
THREE-WAY ANOVA FOR SCALE #6
ACADEMIC PROBLEMS

SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	F RATIO
A: Achievement	929.73	1	929.73	12.60**
B: Sex	196.41	1	196.41	2.66
C: Grade	26.72	1	26.72	0.36
AB: Interaction	113.87	1	113.87	1.54
AC: Interaction	310.30	1	310.30	4.20*
BC: Interaction	91.25	1	91.25	1.24
ABC: Interaction	1.32	1	1.32	0.02
Error:	11143.75	151	73.80	

*p<.05

**p<.01

Scale #6 Academic Problems

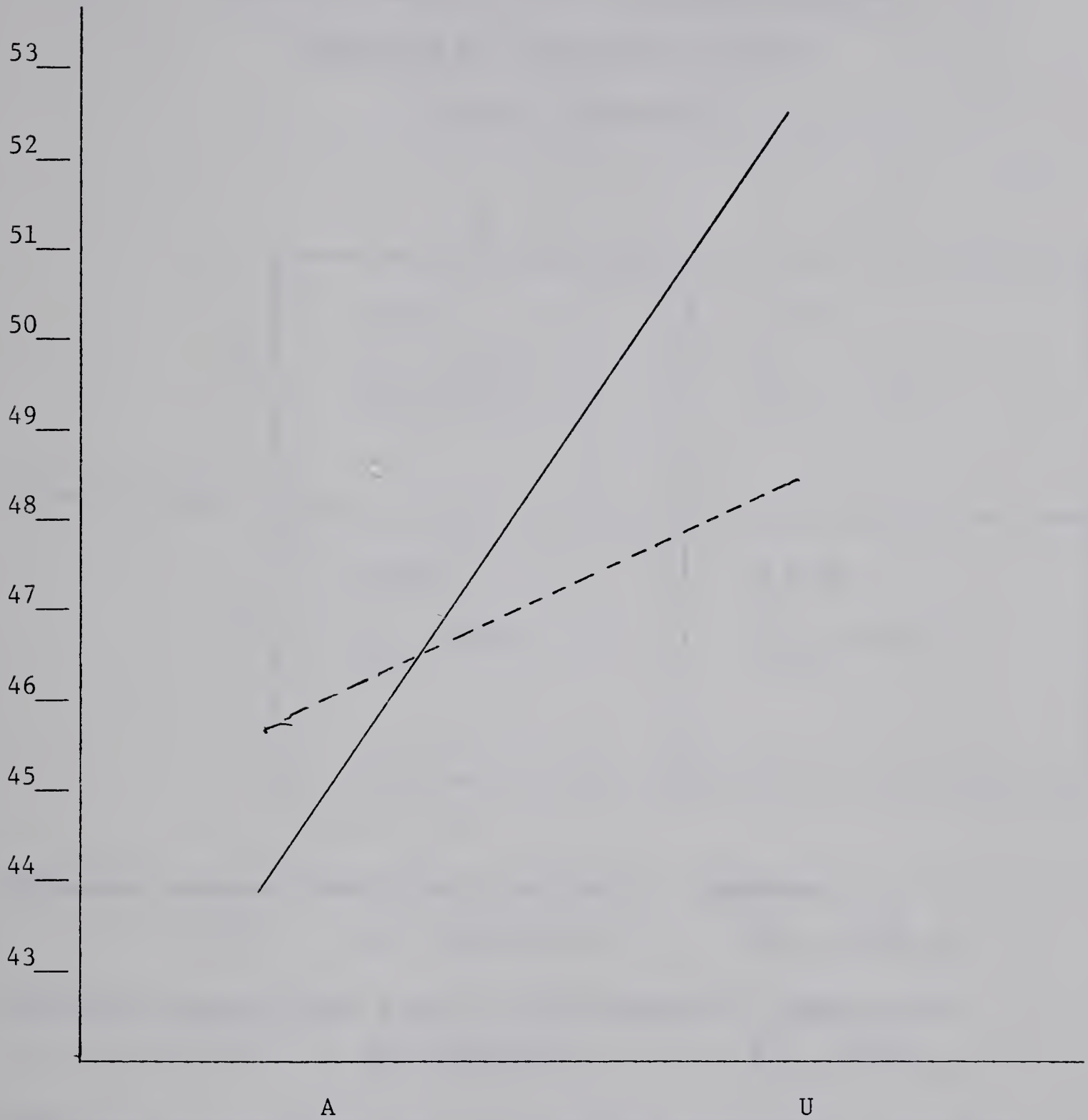


Figure 4.5

Interaction of Grade and Achievement
Using Academic Problems as Criterion

12th Grade _____

9th Grade -----

TABLE 4.30
MEANS AND SAMPLE SIZES FOR ACADEMIC PROBLEMS
CLASSIFIED BY ACHIEVEMENT AND GRADE

Factor A: Achievement

		A	U
Factor C: Grade	9	$N = 44$ $\bar{X}_{1.1} = 45.64$	$N = 57$ $\bar{X}_{2.1} = 48.46$
	12	$N = 37$ $\bar{X}_{1.2} = 43.73$	$N = 37$ $\bar{X}_{2.2} = 52.71$

Difference between grade 9 and 12 achievers: Comparison of
t = 1.00 non significant $\bar{X}_{1.1}$ and $\bar{X}_{1.2}$

Difference between grade 9 and 12 underachievers: Comparison of
t = 1.94 non significant $\bar{X}_{2.1}$ and $\bar{X}_{2.2}$

Difference between grade 9 achievers and underachievers: Comparison of
t = 1.66 non significant $\bar{X}_{1.1}$ and $\bar{X}_{2.1}$

Difference between grade 12 achievers and underachievers: Comparison of
t = 3.82 highly significant $\bar{X}_{1.2}$ and $\bar{X}_{2.2}$

Scale #8, Classroom Relationships, focuses on the feeling of not being accepted by one's classmates and teachers. It indicates the degree to which the individual is lonely and feels like an outsider or an unwanted intruder. A high score on this scale often indicates a conformity to the status quo and a willingness to acquiesce to a social pressure. There are fifteen items on the scale. The items and their serial numbers follow:

<u>Item No.</u>	<u>Scale #8 Classroom Relationships</u>	<u>15 items</u>
	<u>I am bothered by the fact that:</u>	
27	Classmates at school could be more friendly.	
36	There are cliques (closed groups) in my school.	
46	Some classmates are inconsiderate of my feelings.	
60	I do not know what a boy (or girl) expects when on a date.	
64	Outside of my family there is no group where I feel I really belong.	
71	Some teachers are sarcastic and critical of what I do.	
72	In a group I often act differently from what I really am.	
77	There are not enough opportunities to be with a mixed group (boys and girls) in social activities.	
79	Some of my teachers are not interested in me.	
80	My interests are often different from those of others my age.	
99	Some of my teachers do not understand me.	
100	I do not easily get along with others.	
107	I feel pressure at school to do what others do.	

108 I lack ability to participate in sports.

112 I do not have many friends at school.

The choice of answers is:

N - Never Bothered Q - Quite a Bit Bothered

NL - No Longer Bothered S - Somewhat Bothered

V - Very Much Bothered L - Very Little Bothered

The results of the three-way ANOVA for scale eight showed a significant interaction between the grade level of the students and achievement in regard to their classroom relationships. Because of this interaction, the simple main effects for grade and achievement levels were calculated. The overall main effects for the two interacting factors were disregarded. The results of these calculations are given in Table 4.32. One out of the four simple main effects was significant.

Ninth grade achievers were much more apt to feel lonely and to acquiesce to the group pressure ($\bar{X} = 51.59$) rather than exert individualism in fighting the status quo than were twelfth grade achievers ($\bar{X} = 45.68$). It would appear that younger achievers are much more influenced by the school and classroom climate (Lippett and Gold, 1959) and their being accepted as a part of the group in their class, than are the grade twelve achievers. Ordinarily, students have attained some degree of status by the time they have reached grade twelve. They are the "upper" classmen and the leaders in their school and grade and, as such, enjoy a more secure position within the school. This result is in line with the finding of Downey (1960) who found that Canadians placed a high emphasis on knowledge and scholarly attitudes as indicators of success. Zentner and Parr (1968)

TABLE 4.31
THREE-WAY ANOVA FOR SCALE #8
CLASSROOM RELATIONSHIPS

SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	F RATIO
A: Achievement	11.89	1	11.89	1.42
B: Sex	78.59	1	78.59	0.94
C: Grade	258.83	1	253.83	3.10*
AB: Interaction	90.99	1	90.99	1.09
AC: Interaction	440.78	1	440.78	5.28*
BC: Interaction	26.33	1	26.33	0.32
ABC: Interaction	25.40	1	25.40	0.30
Error:	12604.69	151	83.47	

*p<.05

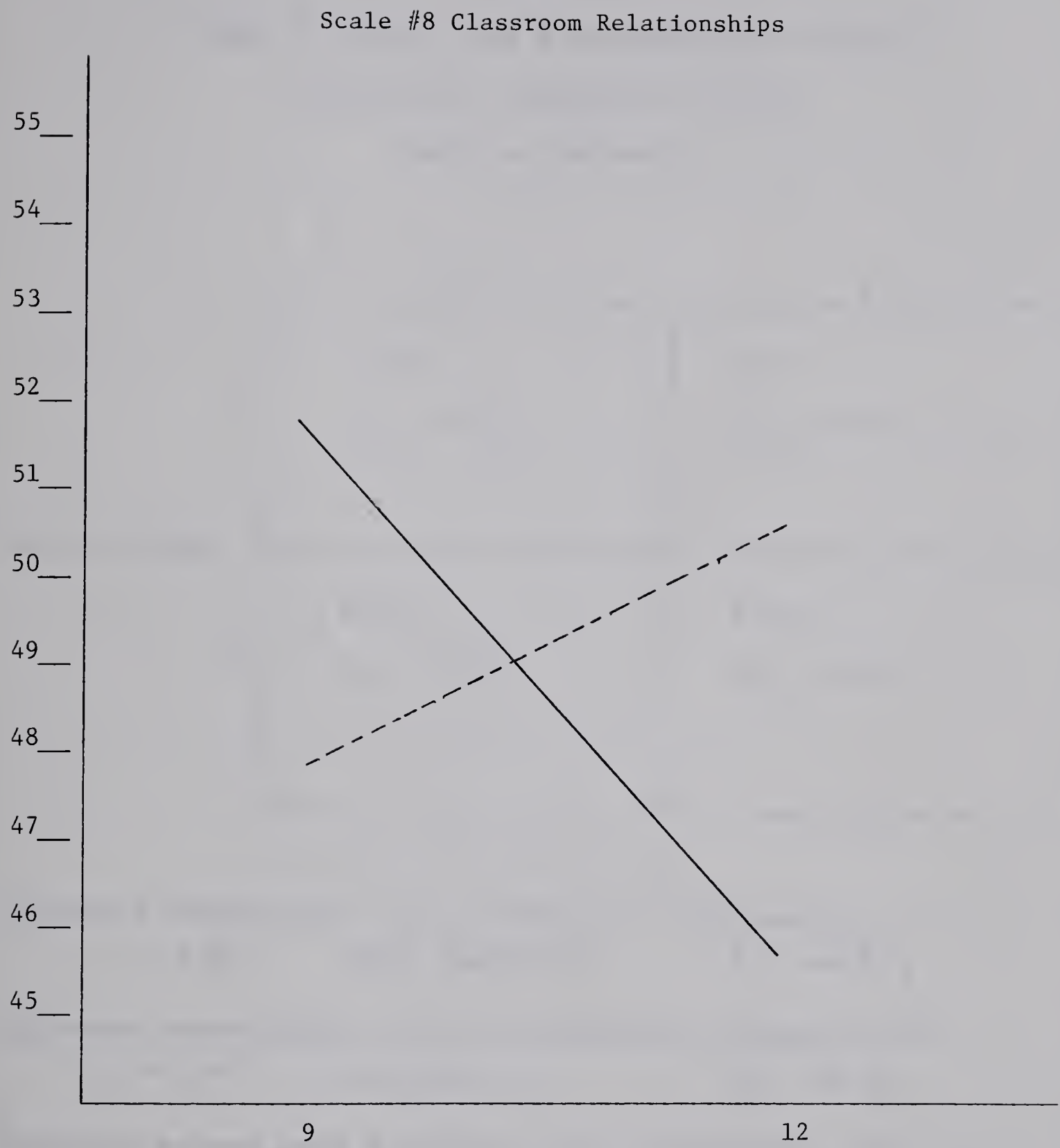


Figure 4.6
Interaction of Achievement and Grade Using
Classroom Relationships as Criterion

Achievers _____

Underachievers - - - - -

TABLE 4.32
MEANS AND SAMPLE SIZES FOR CLASSROOM RELATIONSHIPS
CLASSIFIED BY ACHIEVEMENT AND GRADE

Factor A: Achievement

		A	U
Factor C: Grade	9	$N = 44$ $\bar{X}_{1.1} = 51.59$	$N = 57$ $\bar{X}_{2.1} = 49.07$
	12	$N = 37$ $\bar{X}_{1.2} = 45.68$	$N = 21$ $\bar{X}_{2.2} = 50.43$

Difference between grade 9 and 12 achievers: Comparison of
 $t = 2.90$ highly significant $\bar{X}_{1.1}$ and $\bar{X}_{1.2}$

Difference between grade 9 and 12 underachievers: Comparison of
 $t = 0.58$ non significant $\bar{X}_{2.1}$ and $\bar{X}_{2.2}$

Difference between grade 9 achievers and underachievers: Comparison of
 $t = 1.38$ non significant $\bar{X}_{1.1}$ and $\bar{X}_{2.1}$

Difference between grade 12 achievers and underachievers: Comparison of
 $t = 1.90$ non significant $\bar{X}_{1.2}$ and $\bar{X}_{2.2}$

also found that high school social status and leadership were highly correlated with scholastic achievement. The results were expected and are in line with those from Scale #5 where the grade 9 achievers were more concerned about lack of self-confidence than were twelfth grade achievers. Again, the self-confidence of the older achiever may be reflected in his confidence in class and school relationships with his teachers and fellow school-mates and is considered a basic function of age and maturity.

Scale #9, National Issues reflects the concern of youth for what is happening with the nation and the world, especially as it relates to peace and happiness. Some of the concerns include pollution, nuclear holocaust, unjust laws and the seeming unresponsiveness of government to the needs of people. There are eleven items on the scale. The items and their serial numbers follow:

<u>Item No.</u>	<u>Scale #9 National Issues</u>	<u>11 items</u>
	<u>I am bothered by the fact that:</u>	
28	Our national government often seems unresponsive to the needs of people.	
30	Pollution of our air and water threatens to destroy all human life.	
37	Some of the state laws now being enforced are unjust.	
47	Friends of mine, who don't believe in war, are being forced to enter the military service.	
56	Our world may be destroyed by a nuclear war.	
81	Peace among nations seems impossible.	
83	Revolution and violence may destroy our country soon.	
94	The ideals of the Constitution are far from the	

realities of America Today.

109 Some people want to destroy the government because
they find things to criticize.

113 There is so much violence and crime today.

116 War seems to be a useless butchery.

The choice of answers is:

N - Never Bothered Q - Quite a Bit Bothered

NL - No Longer Bothered S - Somewhat Bothered

V - Very Much Bothered L - Very Little Bothered

The results of the three-way ANOVA for this scale showed a significant interaction between sex and grade level in regard to concern over National Issues. This is the first time BC interaction has been noticed in this study. Because of this interaction, simple main effects for sex and grade were calculated. The results given in Table 4.34. Two of these were significant.

1. Grade twelve girls had greater concern ($X = 44.30$) over the issues reflected in this scale than did grade twelve boys ($X = 39.25$). The implication here seems to be that girls view these issues as primarily sociological rather than political problems and identify highly with the suffering such problems could cause. In the last few years, young people have become much more concerned with what is happening within the country and throughout the world especially as it relates to peace and happiness. Evidently, the senior girls are more concerned than senior boys with the modern sociological, legal and environmental problems such as pollution, nuclear holocaust, violence, war, revolution, unjust laws and the seeming unresponsiveness of government to the needs of people.

TABLE 4.33
THREE-WAY ANOVA FOR SCALE #9
NATIONAL ISSUES

SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	F RATIO
A: Achievement	44.26	1	44.26	0.64
B: Sex	4.74	1	4.74	0.07
C: Grade	38.07	1	38.07	0.55
AB: Interaction	140.02	1	140.02	2.02
AC: Interaction	255.46	1	255.46	3.68
BC: Interaction	624.28	1	624.28	8.99**
ABC: Interaction	11.17	1	11.17	0.16
Error:	10491.50	151	69.48	

**p<.01

Scale #9 National Issues

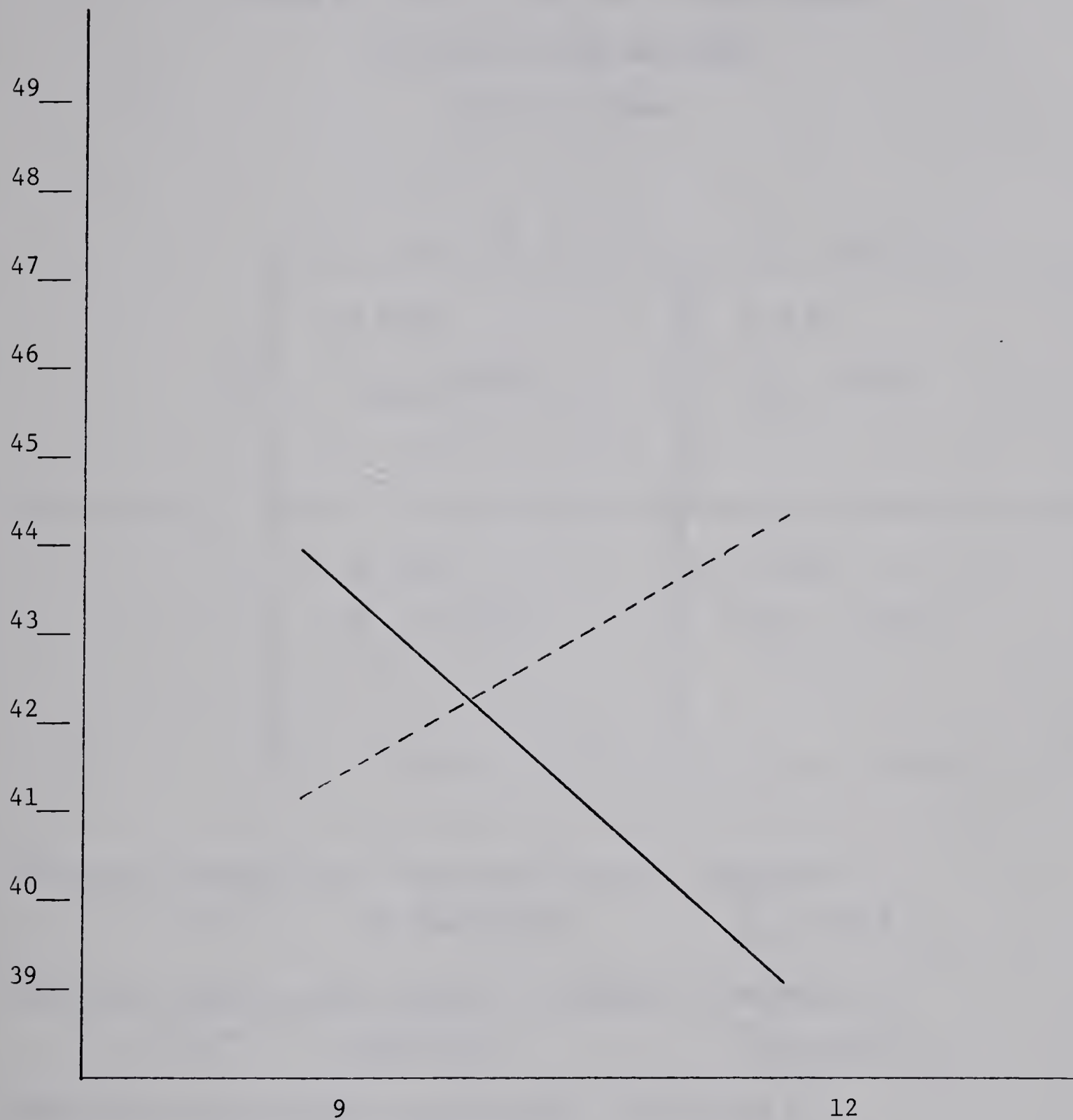


Figure 4.7

Interaction of Sex and Grade Using
National Issues as Criterion

Males _____

Females - - - - -

TABLE 4.34
MEANS AND SAMPLE SIZES FOR NATIONAL ISSUES
CLASSIFIED BY SEX AND GRADE
Factor C: Grade

		9	12
Factor B: Sex	M	<div>N = 55</div> <div>$\bar{X}_{.11} = 43.96$</div>	<div>N = 32</div> <div>$\bar{X}_{.21} = 39.25$</div>
	F	<div>N = 46</div> <div>$\bar{X}_{.12} = 41.28$</div>	<div>N = 26</div> <div>$\bar{X}_{.22} = 44.30$</div>

Difference between grade 9 males and females: Comparison of
t = 1.61 non significant $\bar{X}_{.11}$ and $\bar{X}_{.12}$

Difference between grade 12 males and females: Comparison of
t = 2.30 significant $\bar{X}_{.21}$ and $\bar{X}_{.22}$

Difference between grade 9 and 12 males: Comparison of
t = 2.55 significant $\bar{X}_{.11}$ and $\bar{X}_{.21}$

Difference between grade 9 and 12 females: Comparison of
t = 1.48 non significant $\bar{X}_{.12}$ and $\bar{X}_{.22}$

2. Ninth grade boys (\bar{X} = 43.96) seemed to be more concerned about these problems than twelfth grade boys (\bar{X} = 39.25). The results seem to be out of line with what one would normally expect. For example, one would think that the older males would know more about and be more concerned about such issues. Perhaps, the greater concern by the younger males is a reflection of their being more impressionable and being influenced more than twelfth grade boys by the mass media reports on such issues reflected in the scale.

Scale #12, Maturity of Values, assesses the degree to which one feels free to make independent choices. It indicates the extent to which he feels in control of his behavior and able to resist immediate drives and pressures of others. A high score suggests one who believes he can move toward the goals that serve as his ideals. There are seven items on this scale:

<u>Item No.</u>	<u>Scale #12 Maturity of Values</u>	<u>7 items</u>
224	My concerns focus more on my own needs than on the needs of others.	
230	I am not sure enough of my beliefs to answer when someone challenges my convictions.	
234	I frequently feel torn between conflicting values, beliefs, and desires.	
235	What I think of myself is strongly influenced by what my friends and family tell me.	
236	A gir/boyfriend could convince me to do something I believe to be wrong.	
238	My evaluation of current issues is usually influenced more by my own judgement than by the opinions of others.	

TABLE 4.35
THREE-WAY ANOVA FOR SCALE #12
MATURITY OF VALUES

SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	F RATIO
A: Achievement	472.08	1	472.08	7.09**
B: Sex	46.26	1	46.26	0.69
C: Grade	32.70	1	32.70	0.49
AB: Interaction	96.38	1	96.38	1.45
AC: Interaction	0.09	1	0.09	0.00
BC: Interaction	273.87	1	273.87	4.11*
ABC: Interaction	61.25	1	61.25	0.92
Error:	10055.63	151	66.59	

*p<.05

**p<.01

Scale #12 Maturity of Values

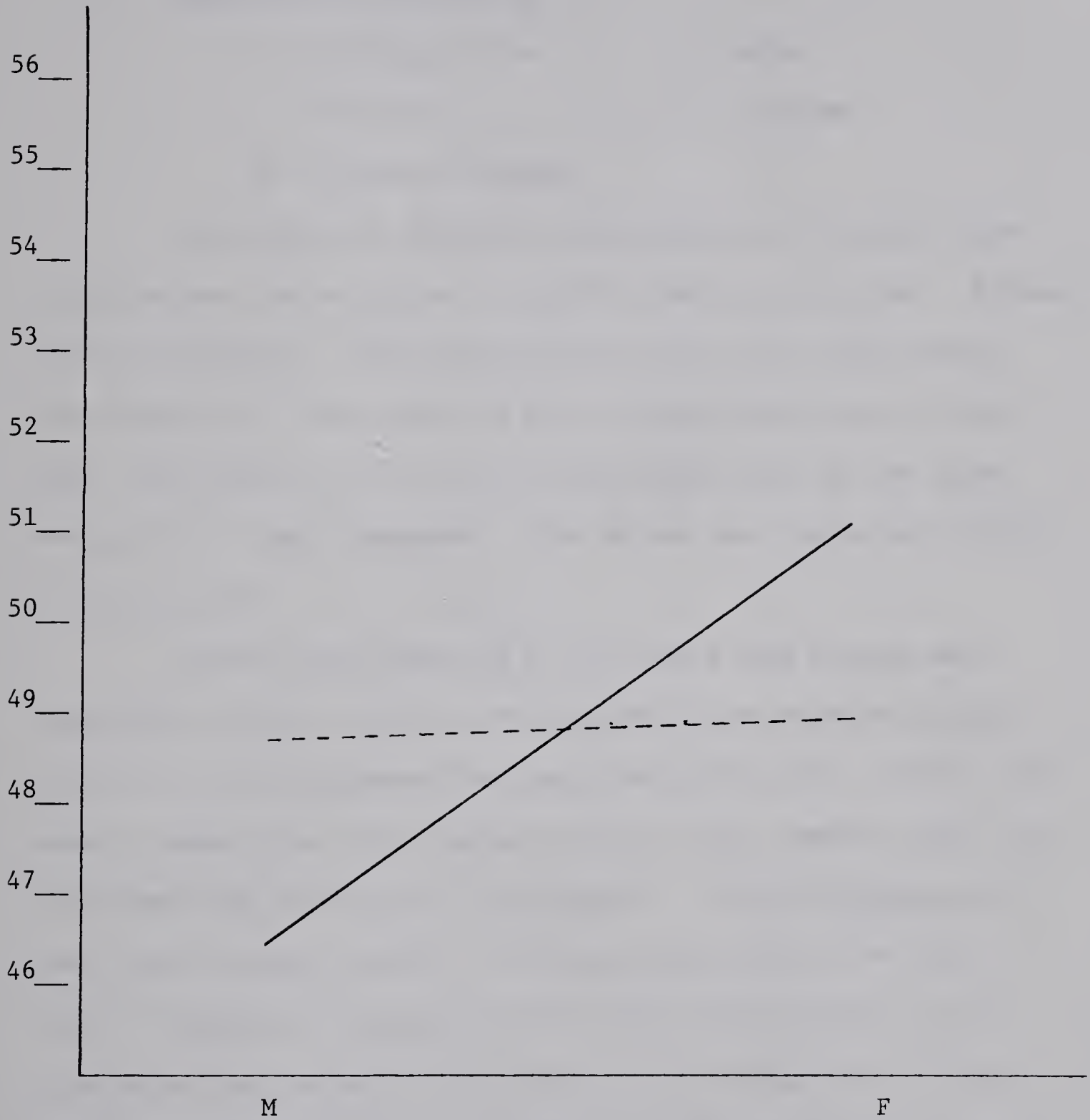


Figure 4.8
Interaction of Sex and Grade Using
Maturity of Values as Criterion

Grade 12 _____

Grade 9 -----

240 My friend could not persuade me to do something which
 I believe to be wrong.

The choice of answers is:

SA - Strongly Agree	A - Agree
N - Not Sure	D - Disagree
SD - Strongly Disagree	

The results of three-way ANOVA (Table 4.35) showed interaction between sex and grade in regard to Maturity of Values. Because of this interaction, simple main effects for sex and grade levels were calculated. The results of these calculations appear in Table 4.36. The results for the overall main effects for the two interacting factors were disregarded. One of the four simple main effects was significant.

Twelfth grade girls ($\bar{X} = 51.04$) felt more free to make independent choices, more in control of their own behavior and able to resist outside pressures than grade twelve boys ($\bar{X} = 46.47$). The results suggest the girls feel more ready to move towards their life objectives than do their male counterparts. It may be hypothesized that there are more choices, including career choices, for boys to make at this time. In this particular area, the majority of girls planning on post-secondary education would be making career choices from the traditional areas - teaching, nursing and secretarial work. Male students on the other hand choose from a wide variety of possibilities. The males also finance themselves to a greater degree than females and have added responsibilities for things such as self-financing. The results of this scale, because the scoring direction for the weights is bi-polar and suggests an interpretation

TABLE 4.36

MEANS AND SAMPLE SIZES FOR MATURITY OF VALUES

CLASSIFIED BY GRADE AND SEX

Factor C: Grade

		9	12
Factor B: Sex	M	$N = 55$ $\bar{X}_{.11} = 48.76$	$N = 32$ $\bar{X}_{.12} = 46.47$
	F	$N = 46$ $\bar{X}_{.21} = 48.83$	$N = 26$ $\bar{X}_{.22} = 51.04$

Difference between grade 9 males and females: Comparison of
 $t = 0.04$ non significant $\bar{X}_{.11}$ and $\bar{X}_{.21}$

Difference between grade 12 males and females: Comparison of
 $t = 2.14$ significant $\bar{X}_{.12}$ and $\bar{X}_{.22}$

Difference between grade 9 and 12 males: Comparison of
 $t = 1.27$ non significant $\bar{X}_{.11}$ and $\bar{X}_{.12}$

Difference between grade 9 and 12 females: Comparison of
 $t = 1.11$ non significant $\bar{X}_{.21}$ and $\bar{X}_{.22}$

other than "maturity", are to be interpreted with caution. This might mean that something other than maturity of values is being measured by the scale.

As indicated in Table 4.37, there was also a significant difference on main Factor A. Achievers scored significantly higher ($X = 47.84$) than underachievers ($X = 44.36$) in regard to Maturity of Values. The achievers indicate superior ability to make their own decisions and more freedom in making such choices than do under-achievers. The scores indicate that the achievers feel more in control of their own behavior, more able to move towards goals that they are seeking and less dependant on others in making such decisions than are the underachievers. This may imply a positive correlation between higher achievement and maturity of values.

Scale #17, Social Action, relates to the practical expression of a young person's concern for others in his society - what he is doing or has done recently to help the lonely and rejected, minorities and people in need. It assesses the extent to which youth are helping through small deeds of kindness and participation in activities labelled social action. There are eight items on the scale. The items and their serial numbers follow:

<u>Item No.</u>	<u>Scale #17 Social Action</u>	<u>8 items</u>
271	I have been involved in discussions on how the Christian should relate to issues of social concern (for example, civil rights, the aging, student protest, war).	
272	I have spent time in a program of service to others.	
273	I have tried to be a friend to people who are lonely	

TABLE 4.37
MEANS AND SAMPLE SIZES FOR MATURITY OF VALUES
CLASSIFIED BY ACHIEVEMENT
Factor: A

A	U
<div>N = 81 \overline{X} = 47.84</div>	<div>N = 78 \overline{X} = 44.36</div>

or rejected.

274 In the past months I have told someone what my faith
means to me.

275 I give some of my money for people in need.

276 I have spoken up to defend persons of minority
groups who are being ridiculed.

277 In my home I have raised questions about issues of
social concern.

415 I have felt a deep identification with the suffering
of others.

The choice of answers is:

YES NO

The results of the three-way ANOVA (Table 4.38) for this scale showed a significant interaction between sex and grade in regard to Social Action. Because of this interaction simple main effects were calculated (Table 4.32). Two results were significant.

1. The results indicated that grade twelve females ($X = 51.42$) were more involved in doing things for others in need or distress and in participating in social action activities than were twelfth grade males ($X = 41.44$). This result was not unexpected as girls have been found (Knill, 1968) to participate in such activities to a greater extent at all grade levels than boys.

2. There was also a significant difference on this scale between twelfth grade girls ($X = 51.42$) and ninth grade girls ($X = 44.89$). Again, involvement and participation in social action would be expected to increase with age. As the female students become older, they are more closely tied to the local residential

TABLE 4.38
THREE-WAY ANOVA FOR SCALE #17
SOCIAL ACTION

SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	F RATIO
A: Achievement	85.42	1	85.42	1.17
B: Sex	900.06	1	900.06	12.31**
C: Grade	185.51	1	185.51	2.54
AB: Interaction	246.57	1	246.57	3.37
AC: Interaction	72.97	1	72.97	1.00
BC: Interaction	657.38	1	657.38	9.00**
ABC: Interaction	52.06	1	52.06	0.71
Error:	11039.38	151	73.11	

**p<.01

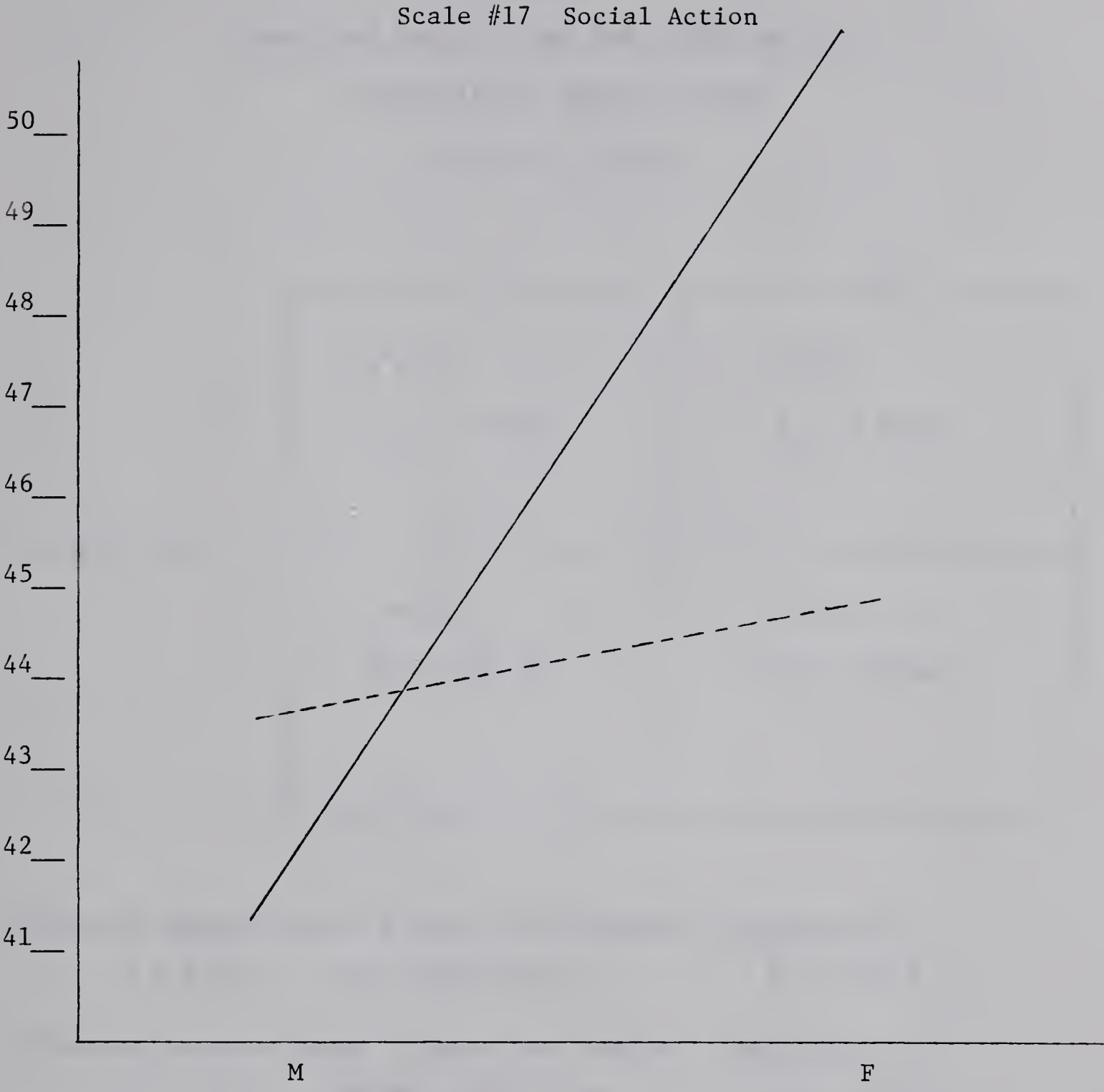


Figure 4.9
Interaction of Grade and Sex Using
Social Action as Criterion

Grade 12 _____
Grade 9 -----

TABLE 4.39
MEANS AND SAMPLE SIZES FOR SOCIAL ACTION
CLASSIFIED BY GRADE AND SEX

Factor C: Grade

		9	12
Factor B: Sex	M	N = 55 $\bar{X}_{.11} = 43.65$	N = 32 $\bar{X}_{.21} = 41.44$
	F	N = 46 $\bar{X}_{.12} = 44.89$	N = 26 $\bar{X}_{.22} = 51.42$

Difference between grade 9 males and females: Comparison of
t = 0.73 non significant $\bar{X}_{.11}$ and $\bar{X}_{.12}$

Difference between grade 12 males and females: Comparison of
t = 4.42 highly significant $\bar{X}_{.21}$ and $\bar{X}_{.22}$

Difference between grade 9 and 12 males: Comparison of
t = 1.16 non significant $\bar{X}_{.11}$ and $\bar{X}_{.21}$

Difference between grade 9 and 12 females: Comparison of
t = 3.12 highly significant $\bar{X}_{.12}$ and $\bar{X}_{.22}$

and church communities along with participation at the school level. Because of this identification, the girls are more apt to become involved in the social matters which are of concern to their areas as they become older. The general willingness to become involved in social action at the church and community levels may be an out-growth of such participation at the school level throughout their formative years.

The values probed by Scale #19, Human Relations, relate to the presence or absence of open-mindedness, sensitivity, and compassion toward those who are often criticized and harshly judged. The reasons may be racial, religious, chauvinistic or ideological. A high score implies an understanding of the essential equality of all men before God. There are twelve items on the scale. The items and their serial numbers follow:

<u>Item No.</u>	<u>Scale #19 Human Relations</u>	<u>12 items</u>
	<u>My impression is that:</u>	
264	Jews are more likely than Christians to cheat in business.	
266	I wouldn't mind having a person of another race for a nextdoor neighbor.	
270	Because Jews are not bound by Christian ethics, they do things to get ahead that Christians generally do not do.	
333	My family would support neighborhood efforts to keep out persons of other races.	
392	Mental illness is a sign of God's displeasure over certain sins.	

- 396 People in enemy countries should suffer as they have
 made others suffer.
- 405 Persons of certain nationalities and religions should
 be kept out of the country.
- 406 No punishment is too severe for those persons guilty
 of sex killings.
- 410 Science is opposed to Christianity.
- 412 The church should not send food to communist people.
- 399 I believe that excluding black (or other racial groups)
 from church activities would be justified in some
 communities.
- 418 There are some non-church activities from which I
 could justifiably exclude certain people because of
 their race.

The choice of answers is:

YES NO ?

The results of the three-way ANOVA (Table 4.40) for this scale showed a significant interaction between sex and grade level in regard to Human Relations. Because of this interaction, simple main effects for grade level and sex were calculated. The results appear in Table 4.41 Overall main effects for the two interacting factors were disregarded. Three of the four simple main effects were significant.

1. There was a significant difference between ninth grade males (\bar{X} = 41.96) and ninth grade females (\bar{X} = 48.72) in regard to this scale, Human Relations. Openmindedness, sensitivity and compassion are probably characteristics of maturity. For this

TABLE 4.40
THREE-WAY ANOVA FOR SCALE #19
HUMAN RELATIONSHIPS

SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	F RATIO
A: Achievement	1111.42	1	1111.42	16.96**
B: Sex	338.75	1	338.75	5.17*
C: Grade	3568.74	1	3568.74	54.45**
AB: Interaction	189.10	1	189.19	2.89
AC: Interaction	91.01	1	91.01	1.39
BC: Interaction	373.90	1	373.90	5.70*
ABC: Interaction	99.15	1	99.15	1.51
Error:	9896.69	151	65.54	

*p<.05

**p<.01

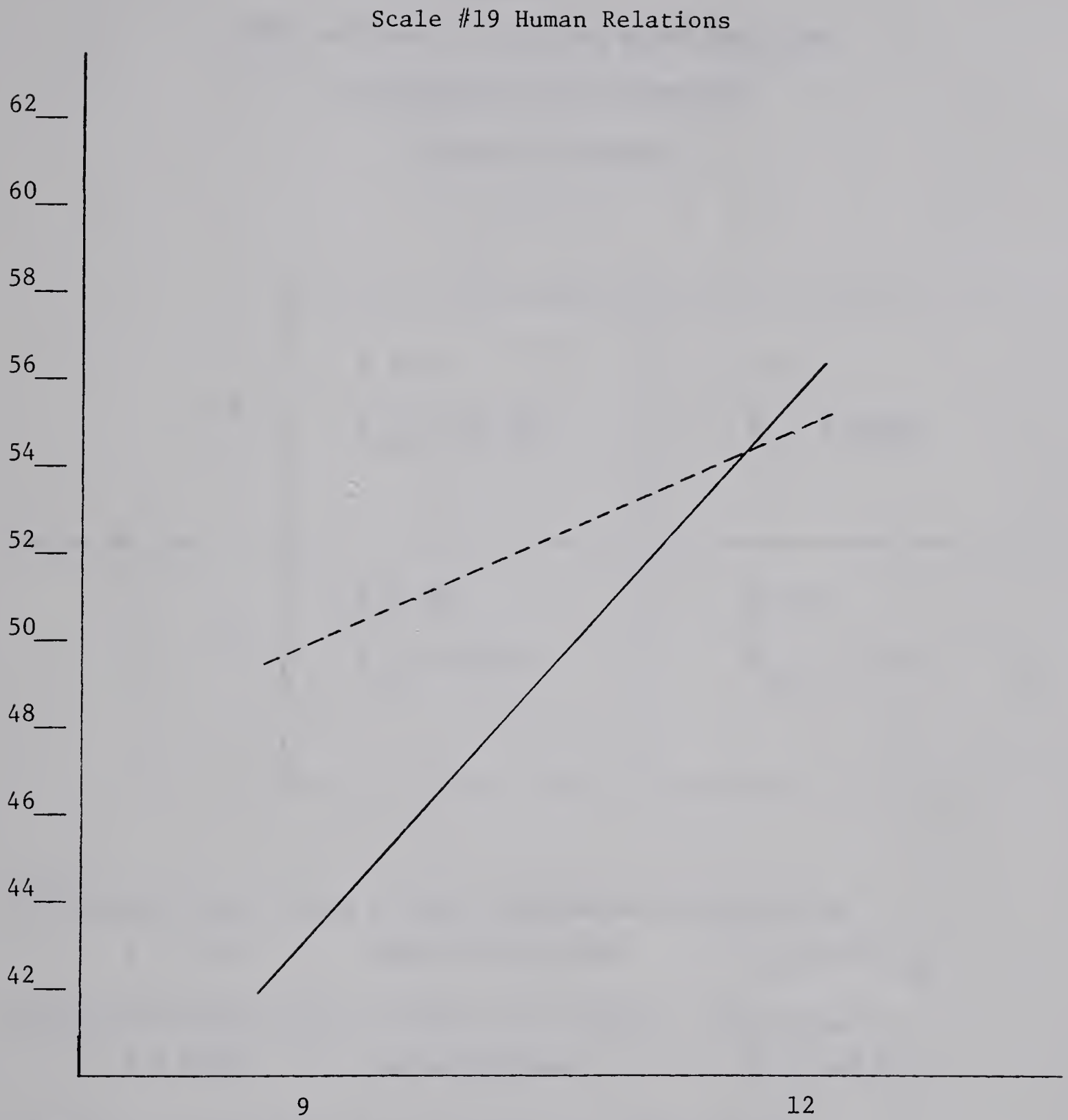


Figure 4.10
Interaction of Grade and Sex
Using Human Relations as Criterion

Males _____

Females - - - - -

TABLE 4.41
MEANS AND SAMPLE SIZES FOR HUMAN RELATIONS
CLASSIFIED BY GRADE AND SEX
Factor C: Grade

		9	12
Factor B: Sex	M	N = 55 $\bar{X}_{.11} = 41.96$	N = 32 $\bar{X}_{.21} = 56.06$
	F	N = 46 $\bar{X}_{.12} = 48.72$	N = 26 $\bar{X}_{.22} = 55.08$

Difference between grade 9 males and females: Comparison of
t = 4.20 highly significant $\bar{X}_{.11}$ and $\bar{X}_{.12}$

Difference between grade 12 males and females: Comparison of
t = 0.46 non significant $\bar{X}_{.21}$ and $\bar{X}_{.22}$

Difference between grade 9 and 12 males: Comparison of
t = 1.83 highly significant $\bar{X}_{.11}$ and $\bar{X}_{.21}$

Difference between grade 9 and 12 females: Comparison of
t = 3.21 highly significant $\bar{X}_{.12}$ and $\bar{X}_{.22}$

TABLE 4.42
MEANS AND SAMPLE SIZES FOR HUMAN RELATIONS
CLASSIFIED BY ACHIEVEMENT

Factor: A

A	U
<div>N = 81 $\bar{X}_{1..} = 47.84$</div>	<div>N = 78 $\bar{X}_{2..} = 44.36$</div>

reason girls in grade nine who are perhaps more mature in some ways than the boys at this grade level in respect to these characteristics. Evidently, they express more consideration for those commonly criticized and judged harshly by society.

2. The second significant difference on this scale showed that twelfth grade females ($\bar{X} = 55.08$) scored higher than ninth grade females ($\bar{X} = 48.72$). This finding was expected and seems to corroborate the position that age and growth are involved in the presence or absence of openmindedness, sensitivity and compassion towards minority groups. With an increase in age, the grade twelve girls would be expected to score higher on Human Relations.

3. Twelfth grade males ($\bar{X} = 56.06$) scored significantly higher than ninth grade males ($\bar{X} = 41.96$) on Human Relations. Again, the depth of such qualities as compassion, sensitivity and consideration would be expected to increase with age. The implication here is that the depth of these qualities is a function of growth. The older students (both males and females) showed a greater understanding of the essential quality of all men before God regardless of differences in race, religion or ideology.

As indicated in Tables 4.40 and 4.42, there was also a significance in the overall effect for achievement (Factor A). The achievers ($\bar{X} = 47.84$) scored significantly higher than did the underachievers ($\bar{X} = 44.36$) on Human Relations. The achievers show more understanding of the equality of men before God despite differences as to race, religion, etc. Again the results would seem to be a function of age and maturity.

In the past number of years, there has been a tremendous rise in involvement with the rights of minority groups by youth. These minorities have often been looked down upon, blamed for things over which they had little control and generally treated harshly by society. The reasons for such criticism have been racial, religious, chauvinistic or ideological. Such prejudice demonstrated an ignorance of the basic truth of Christianity that all men are equal before God. Education would seem to be an important source of variation on this scale from the difference in the average scores of achievers ($\bar{x} = 47.84$) and underachievers ($\bar{x} = 44.36$). While all groups in the study showed a degree of understanding of the problems, there seemed to be some need for a clarification of such specific prejudices in the light of the general belief of equality before God.

Scale #21, Biblical Concepts distinguishes those who hold to a humanistic approach from those who hold to a particularistic approach to Christian Faith. It indicates both those who perceive the conceptual uniqueness of Christianity and reject generalized statements about religion. The scale has eight items. These items and their serial numbers follow:

<u>Item No.</u>	<u>Scale #21</u>	<u>Biblical Concepts</u>	<u>8 items</u>
385	The way to be accepted by God is to try sincerely to live a good life.		
386	Being tolerant means that one accepts all religion (including Christianity) as equally important before God.		
389	The main emphasis of the Gospel is on God's rules for right living.		

390 Although there are many religions in the world, most
of them lead to the same God.

394 God is satisfied if a person lives the best life he
can.

395 I believe a person at birth is neither good nor bad.

397 Salvation depends upon being sincere in whatever you
believe.

404 If I say I believe in God and do right I will get to
heaven.

The choice of answers is:

YES NO ?

The results of the three-way ANOVA for this scale showed a significant interaction between grade and achievement levels. Because of this interaction, simple main effects for achievement and grade levels were calculated and the overall main effects for the two interacting factors were disregarded. The results of the calculations for the simple main effects appear in Table 4.44. Two of these were significant.

1. It was observed that the grade twelve underachievers ($\bar{X} = 55.38$) were more prone to view religion in a more particularistic Christian fashion than did the ninth grade underachievers ($\bar{X} = 49.89$) who indicated a more humanistic approach. It was expected that the young students who are still at an age when they adhere to the basic concepts they have been taught at home, in church and in school would be more believing. At their age, they would not have been expected to think through these concepts much less question or challenge them.

TABLE 4.43
THREE-WAY ANOVA FOR SCALE #21
BIBLICAL CONCEPTS

SOURCE OF VARIANCE	SUM OF SQUARES	DF	MEAN SQUARES	F RATIO
A: Achievement	750.89	1	750.89	7.28**
B: Sex	96.18	1	96.18	0.93
C: Grade	0.52	1	0.52	0.00
AB: Interaction	20.21	1	20.21	0.19
AC: Interaction	824.92	1	824.92	7.99**
BC: Interaction	0.17	1	0.17	0.00
ABC: Interaction	1320.68	1	1320.68	12.80
Error:	11571.75	151	103.12	

**p<.01

TABLE 4.44
MEANS AND SAMPLE SIZES FOR BIBLICAL CONCEPTS
CLASSIFIED BY ACHIEVEMENT AND GRADE

Factor A: Achievement

		A	U
Factor C: Grade	9	$N = 44$ $\bar{X}_{1.1} = 48.98$	$N = 57$ $\bar{X}_{2.1} = 49.89$
	12	$N = 37$ $\bar{X}_{1.2} = 44.70$	$N = 21$ $\bar{X}_{2.2} = 55.38$

Difference between grade 9 and 12 achievers: Comparison of
 $t = 1.89$ non significant $\bar{X}_{1.1}$ and $\bar{X}_{1.2}$

Difference between grade 9 and 12 underachievers: Comparison of
 $t = 2.12$ significant $\bar{X}_{2.1}$ and $\bar{X}_{2.2}$

Difference between grade 9 achievers and underachievers: Comparison of
 $t = 0.45$ non significant $\bar{X}_{1.1}$ and $\bar{X}_{2.1}$

Difference between grade 12 achievers and underachievers: Comparison of
 $t = 3.86$ highly significant $\bar{X}_{1.2}$ and $\bar{X}_{2.2}$

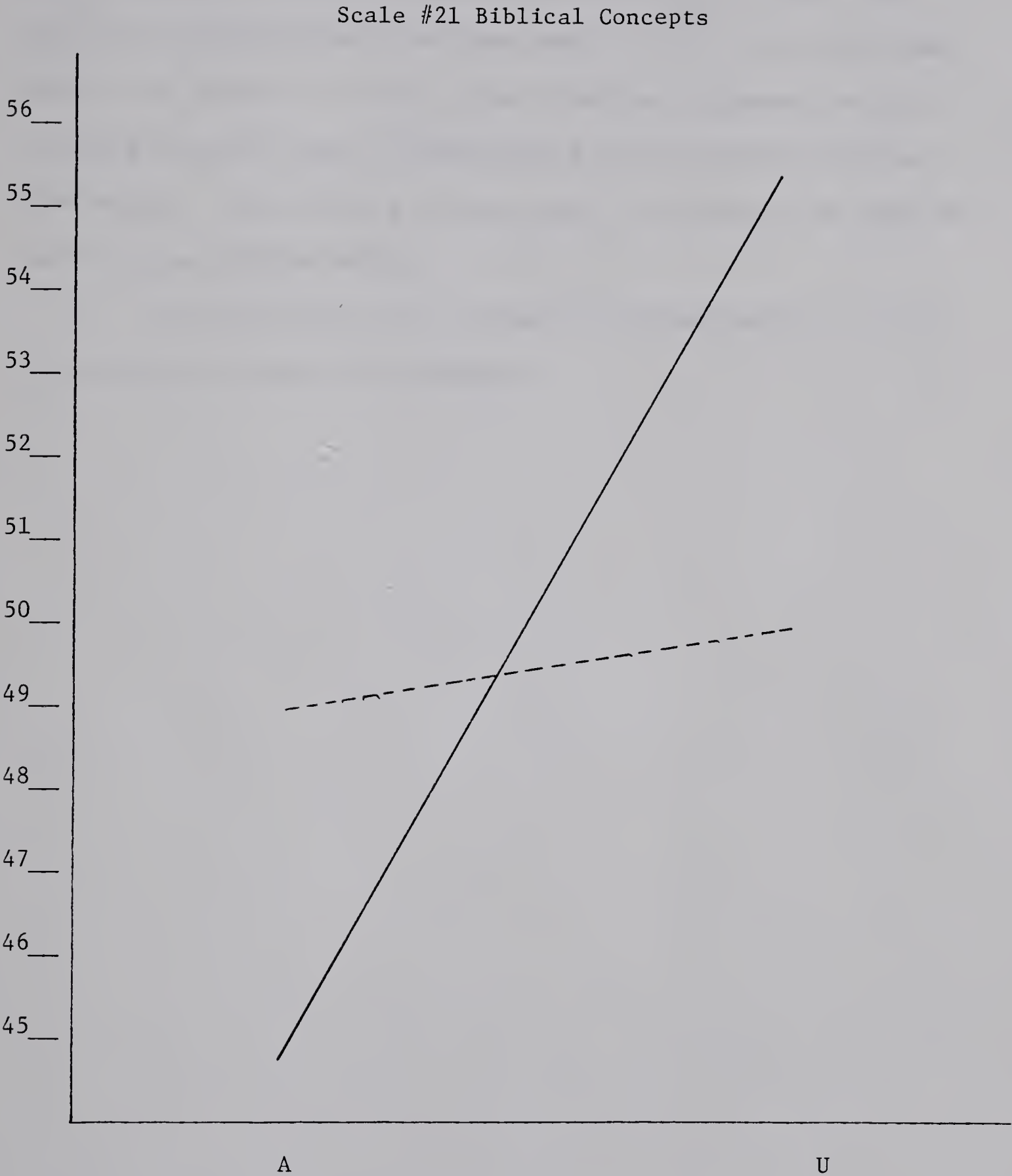


Figure 4.11
Interaction of Achievement and Grade Using
Biblical Concepts as Criterion

Grade 12 _____
Grade 9 -----

2. There was also a significant difference between grade twelve achievers ($\bar{X} = 44.70$) and underachievers ($\bar{X} = 55.38$). The grade twelve underachievers are more prone to accept the established church, and, indeed, to accept a more traditional approach to life including specific tenets of Christianity than are their achieving counterparts. The achieving student seems to be more apt to question and challenge existing beliefs.

The conclusions, implications and suggestions for further research will be discussed in Chapter V.

CHAPTER V

SUMMARY, IMPLICATIONS AND SUGGESTIONS

Summary

The present study investigated the differential concerns, values and beliefs of achieving and underachieving high-schoolers of high ability. The students consisted of all Roman Catholic Students of Grades 9 and 12 who stood in the top 30% of the group on the Lorge-Thorndike Intelligence Tests and who were students in the pre-university stream. The students were assigned to two contrasting achievement groups on the basis of the difference between the actual and the predicted achievement. This prediction was made, using simple linear regression between ability as measured by Lorge-Thorndike I.Q. and achievement as determined by grade point average. Using the algebraic difference between the actual achievement and the predicted achievement, half of these students were placed in the achieving group and the remaining half were called underachievers.

The Youth Research Survey was administered to the subject and responses on 21 out of the total of 25 scales were machine scored. The study used a three-factor design with cross classification and the total scores on each of the twenty-one scales formed the criterion. These factors were:

Factor A - Achievement

Achievers

Underachievers

Factor B - Sex	Males
	Females
Factor C - Grade	Nine
	Twelve

Summary of Significant Differences

Overall Main Effects

Factor A: Achievement Levels

- S12 Achievers indicated a greater Maturity of Values (scale #12) than did underachievers.
- S14 Achievers indicated a higher sense of Moral Responsibility (scale #14) than did underachievers.
- S15 Achievers indicated a more traditional life style as measured by Meaningful Life (scale #15) than did underachievers.
- S19 Achievers tended to be more openminded and compassionate towards minority groups than did underachievers as measured by Human Relations (scale #19).

Factor B: Sex

- S7 Females indicated more concern about Personal Faults (scale #7) than did males.
- S13 Males seemed to favour Orientation for Change (scale #13) to a greater degree than did females.
- S15 Females seemed to prefer a traditional life-style, as measured by Meaningful Life (scale #15) while males seemed to prefer a pleasure-oriented life-style.

- S16 Females tended to be more involved in religious activities as measured by Religious Participation (scale #16) than did males.
- S18 Males seemed to possess a superior concept of themselves as measured by Self-Regard (scale #18) than did females.
- S20 Females seemed to be more apt to accept God as a reality in their everyday lives as measured by God Awareness (scale #20) than did males.

Factor C: Grade Levels

- S3 Twelfth grade students tended to show more concern over Family Pressures (scale #3) than did ninth graders.
- S4 Twelfth grade students tended to show more concern over relationships with the opposite sex and choice of a Life Partner (scale #4) than did ninth graders.
- S14 Twelfth Grade students indicated a higher sense of Moral Responsibility (scale #14) than did ninth graders.
- S15 Twelfth grade students tended to have a more traditional life-style as measured by Meaningful Life (scale #15) than did ninth graders who professed a more liberal life-style.
- S20 Ninth grade students seemed to profess a greater belief in God's presence as an ever-present reality to them as measured by God Awareness (scale #20) than did twelfth graders.

INTERACTION EFFECTS

A B Interaction: The interaction between achievement levels and sex was found on two scales - Family Pressures and Lack of Self-Confidence

S3 Female underachievers seemed to be more concerned about Family Pressures (scale #3) than did male underachievers.

S5(a) Male underachievers seemed to be more concerned about Lack of Self-Confidence (scale #5) than did male achievers.

S5(b) Female achievers seemed to be more concerned over Lack of Self-Confidence(scale #5) than did male achievers.

S5(c) Female underachievers seemed to be more concerned about Lack of Self-Confidence (scale #5) than did male under-achievers.

A C Interaction: The interaction between achievement levels and grade levels was found on five scales - Family Unity, Lack of Self-Confidence, Academic Problems, Classroom Relationships and Biblical Concepts.

S1(a) Ninth grade achievers seemed to be more concerned over Family Unity (scale #1) than did twelfth grade achievers.

S1(b) Twelfth grade underachievers seemed to be more concerned over Family Unity (scale #1) than did twelfth grade achievers.

S5(a) Ninth grade achievers seemed to be more concerned over a Lack of Self-Confidence (scale #5) than did twelfth grade achievers.

S5(b) Twelfth grade underachievers seemed to be more concerned over a Lack of Self-Confidence (scale #5) than did twelfth grade achievers.

S6 Twelfth grade underachievers seemed to be more concerned about Academic Problems (scale #6) than did twelfth grade

achievers.

S8 Ninth grade achievers seemed to be more concerned over Classroom Relationships (scale #8) than were twelfth grade achievers.

S21(a) Twelfth grade underachievers seemed to be more humanistic in their approach to religion as measured by Biblical Concepts (scale #21) than did twelfth grade achievers.

S21(b) Twelfth grade underachievers seemed to be more humanistic in their approach to religion as measured by Biblical Concepts (scale #21) than did ninth grade underachievers.

B C Interaction: The interaction between sex and grade levels was found on four scales - National Issues, Maturity of Values, Social Action, Human Relations.

S9(a) Ninth grade males seemed to be more concerned over National Issues (scale #9) than did twelfth grade males.

S9(b) Twelfth grade females seemed to be more concerned over National Issues (scale #9) than did twelfth grade males.

S12 Twelfth grade females seemed to be more free in making decisions and controlling their lives as measured by Maturity of Values (scale #12) than did twelfth grade males.

S17(a) Twelfth grade females seemed to be more involved in Social Action (scale #17) than did twelfth grade males.

S17(b) Twelfth grade females seemed to be more involved in Social Action (scale #17) than did ninth grade females.

S19(a) Twelfth grade females seemed to show a greater recognition of and compassion for minority groups as measured by Human Relations (scale #19) than did ninth grade females.

- S19(b) Twelfth grade males seemed to show a greater recognition of and compassion for minority groups as measured by Human Relations (scale #19) than did ninth grade males.
- S19(c) Ninth grade females seemed to show a greater recognition of and compassion for minority groups as measured by Human Relations (scale #19) than did ninth grade males.

Extrapolating from the findings of the research, profiles of the group of students studied seemed to emerge. The description of the general group of achievers and underachievers as it emerged from the significant differences found in the research is followed by a discussion of some results which are very interesting because, contrary to most research, they failed to differentiate the achievers from the underachievers.

Significant Differences in Achievers and Underachievers

Achievers. The achieving students, as a group, exhibit several basic differences when compared with underachieving counterparts. As would be expected, the achievers show significantly less concern over the academic aspects of school life (scale #6) than do the underachievers. The achievers worry less about their actual and anticipated grades, are less frustrated over their inability to concentrate on school work and are less prone to self-blame over doing poorly or failing. The achievers see themselves as maturing individuals (scale #12) who are becoming increasingly able to make their own decisions and independent choices rather than depend on the opinions of others. They feel in control of their own behavior and able to

resist immediate drives and pressures of others, in other words, they believe they can move toward goals that serve as his ideals.

Achieving students in general seem to acknowledge and accept responsibility (scale #14) for other's welfare. This would seem to indicate an expansive attitude toward people whether in the home, church or school community. The achievers also tend to value a more conservative life-style (scale #15) which has such life goals as serving others, ethical behavior, honesty, family happiness and meaningful work. Achievers also seem to be openminded, sensitive and compassionate towards minority groups (scale #19) whether they be religious, racial, chauvinistic or ideological, implying a better understanding of the essential equality of all men before God. Finally, achievers, in general, seem to hold a more generalized religion or a humanistic (scale #21) rather than a particularistic approach to religion.

Underachievers. The underachieving students present a contrasting system of concerns, values and beliefs. They are more concerned over academic problems (scale #6) including grades, inability to concentrate, poor achievement as failure. They do not see themselves in the role of their "brother's keeper" (scale #14) but prefer what Strommen and Gupta (1972) and Allport (1961) refer to as a "privatism" where they are not required to become involved with or responsible for others. The underachievers also espouse a more emergent value system (scale #15) with goals that are hedonistic and somewhat self-centered, giving priority to materialistic things like money, personal power and physical attractiveness. The underachievers also seem to have less understanding of (scale #19) and compassion for those who are often criticized and judged harshly, that is the underachievers

seem less aware of the equality of all men before God.

Non-Significant Differences in Achievers and Underachievers

There were several scales where no significant differences between achievers and underachievers were found. Some of these findings were very interesting because research extant on the subject shows very different results. Research findings (Raths et al., 1966; Roth & Meyerson, 1963; Havighurst, 1962; McClelland et al., 1958; Pierce and Bowman, 1960; Parsons, 1962; Mosher & Sprinthall, 1971; Tseng, 1972; Cervantes, 1965; Strommen and Gupta, 1972) generally indicate that the quality of interaction in the adolescents' family has a serious effect on school achievement. For instance, Tseng (1972) found that poor family relationships adversely affected achievement. Cervantes' study showed that interpersonal understanding and acceptance, depth of communication, joint leisure activities and family happiness were positively correlated with achievement and good behavior in school. Myerhoff & Larson (1965) found that boys who came from families where there was a high degree of consensus regarding school expectations were higher achievers than those whose family consensus in this regard was low. While these research studies seem to indicate the very strong power of the home environment in forming academic attitudes and determining scholastic success, the results of the present study do not corroborate these generally held beliefs. In fact there were no significant differences on any of the the three family related concern scales. Contrary to expectations, there was no significant difference on Family Unity, which reflects concern over the emotional climate in home, the lack of togetherness, understanding and basic consideration

and the poor quality of inter-action between parents and children. Nor was there any significant difference on Parental Understanding which reflects concern over poor communication between youth and his parents, distress over being treated as a child and disappointment in his parents' distrust of him. Finally, there was no significant difference on Family Pressures which reflects concern over divorce, separation, illness, financial problems and parent-youth strife. One possible explanation may be in the homogeneity of socio-economic and religious backgrounds from which these students come.

Research has also demonstrated (Alves, 1960; Bishton, 1957; Mason, 1958; McClelland et al., 1958; Strommen & Gupta, 1972) a relationship between an adolescent's achievement and his self-concept. In the present study no significant differences were found between achievers and underachievers in several scales which directly or indirectly reflect how a person feels about himself in various situations. There was no significant difference between the groups on Lack of Self-Confidence which measures how young people feel about themselves, how afraid they are of making mistakes or how uneasy they are in group situations. Nor was there a difference on Self-Regard. This scale deals directly with self-concept and youth with high grades and close friends (Strommen & Gupta, 1972) tend to score high on this scale. In this study, achievement and having close friends does not seem to play an important role in determining the self-concept of these students. The lack of significant differences on several other scales seems to corroborate this finding and seems to indicate a consistency in the results of the study. There was no significant difference on Life Partner which reflects the concerns of youth who are self-critical and

unsure of themselves and tend to worry over not being wanted by another. Nor was there a significant difference on Personal Faults which reflects a mode of thinking and feeling about oneself that often undermines one's self-confidence. This also would seem to strengthen the findings that achievers and underachievers show no great differences in regard to the way they feel about themselves.

There was no significant difference on Classroom Relationships which reflect a high degree of concern (Strommen & Gupta, 1972) in students who have few or no friends at school. The fact that no difference between the groups was found on this scale is consistent with no significant difference on Self-Regard which also reflects to some degree whether or not a young person feels he has a close circle of friends. In this same regard, it is interesting to note that there was no significant difference between the achievers and underachievers on Social Action where low scores are usually found (Strommen & Gupta, 1972) on profiles of young people with no close friends. It would seem that while the findings in this study are not in keeping with much of the literature extant on the subject, they are consistent within the sub-tests of the instrument.

The scale, Interest in Help, separates the religiously interested from the religiously disinterested youth. Strommen & Gupta (1972) point out that one group who show the least interest in help are those with low grades - the underachievers - and suggest that an anti-establishment attitude towards school transfers to the church. However, in the present study no such difference was found between the achievers and underachievers. Nor was there any significant differences found

between these groups in God Relationship, Religious Participation or God Awareness which would seem to indicate, fairly high degree of consistency in the findings regarding church-oriented behavior. For this group of Catholic students from a rather conservative and traditional area, the findings were not entirely unexpected.

Finally, the achievers and underachievers showed no significant difference on Orientation for Change which reflects youth's thinking in the political realm of law enforcement, social welfare, race relations, war, reform in school curricula, and sexual behavior. Nor was there a significant difference on National Issues which reflects youth's fear of pollution, violence, war, disorder and lawlessness. Perhaps the fact that these groups showed about the same concern over these problems can be explained to some degree by the fact that in the past fifteen to twenty years we have seen an unprecedented rise in the concern among youth in general for what is happening in the country and around the world especially as it relates to peace and happiness.

Males. Male students reflect a mode of thinking and feeling about themselves that tends to enhance their self-confidence to a greater degree than do female students. They are not particularly introspective or self-critical (scale #7) about themselves and, therefore, not prone to develop guilt complexes about what they have done or failed to do. Males are also quite liberal in their thinking (scale #13) in the political realm of law enforcement, social welfare, race relations, war, reforms in school curricula, and sexual behavior. Males also favour a life-style (scale #15) characterized by less traditional goals. They accept themselves as persons of worth and promise (scale #18) who generally feel

good about themselves and their relationships with others.

Again, in contrast to females, males are not as involved in church activities (scale #16) nor do they accept as readily the church's declared beliefs and values, nor are they as involved in social activities (scale #19) as are girls. Males do not seem to be aware of God in their lives as an ever-present reality (scale #20) to the degree that females experience and accept this truth and therefore, are less open-minded and compassionate towards minority groups.

Females. As with the males in the study, females present a clear and consistent image. The females are less self-confident (scale #5) and more self-critical and guilt ridden (scale #7) over not living up to their personal ideals. They are more concerned over the things they do or omit which are not consistent with the ideals they have set for themselves. This kind of thinking can lead (Strommen and Gupta, 1972) to a lessening of self-confidence and a lowering of self-esteem. Females are more conservative in their thinking (scale #13) in the areas of law enforcement, social welfare, race relations, war reforms in school curricula and sexual behavior. They are also more traditional in their life-style (scale #15). They favour a life-style that accords importance to such goals as serving others, ethical behavior, giving and receiving love, family happiness and meaningful work. Females, however, do not hold as high an opinion (scale #18) of themselves as do males. They are not as accepting of themselves as persons of worth and promise as are their male counterparts and do not feel as good about themselves and their relationship with others.

Again, differing from males, females are more involved (scale #16) in church-related activities and are more willing to accept the

beliefs and values of the institutionalized church. Females are also more involved in helping activities (scale #17) and more sensitive towards minority groups (scale #19) than are males. In contrast to their male counterparts females are more aware of God and more accepting of Him as an ever-present reality in their lives (scale #20).

Ninth Graders. Ninth graders are less concerned over divorce, separation, illness, financial problems and other family pressures (scale #3) which tend to intensify negative reactions in the home than are twelfth graders. Ninth grade students show less concern than twelfth graders over relationships with the opposite sex (scale #4) and have less anxiety over the possibility of not having a happy marriage. Ninth graders are more concerned over having friends at school (scale #8) than are twelfth graders. These junior students evince a lesser sense of responsibility (scale #14) towards others and are less willing to become involved by accepting responsibility for others than do senior students. Ninth graders profess a life-style which is characterized by goals that are hedonistic (scale #15) and self-centered, giving a high priority to having money, personal power, physical attractiveness, skill and expertise. Grade nine students show less understanding of and compassion for minority groups (scale #19), show themselves to be more accepting of the presence of God (scale #20) as a real presence in their lives, the truth of life after death and the power of prayer than are twelfth graders.

Twelfth Graders. Twelfth graders are more concerned than ninth graders over negative pressures such as separation, illness, financial problems in the home (scale #3). Grade twelve students are more concerned over their uncertainty about their relationships (scale

#4) and more willingness to become involved by accepting responsibility for others than do the junior students. Twelfth graders have a more traditional life-style (scale #15) that sees serving others, wisdom, honesty, family happiness and meaningful work as desirable life goals. They show more compassion for the less fortunate minority groups (scale #19) than do the ninth graders. However, twelfth graders do not seem to experience God (scale #20) in their lives as a living reality, nor to accept the truths of life after death and the power of prayer as do ninth graders.

Male Achievers. Male achievers are significantly more self-confident (scale #5) than either female achievers or male underachievers. They are not as afraid of the risk of making a mistake and exposing themselves, more confident in group situations and less pressured to please everybody.

Female Achievers. Female achievers are more concerned about lack of self-confidence (scale #5) than are male achievers. These female achievers are more uncertain about themselves, afraid of making mistakes, of being exposed to ridicule, shy in group situations, overly anxious to please others and of avoiding embarrassing incidents.

Male Underachievers. Male underachievers are less concerned about family pressures (Scale #3) than are female underachievers. Some of the things which cause this pressure in youth are separation, divorce, financial problems and intra-family strife. Male underachievers are significantly less concerned over lack of self-confidence (scale #5) than are female underachievers, but significantly more concerned over lack of this same quality than are male achievers. While underachieving males are more self-confident, less fearful of risk-taking, more

comfortable in a group than underachieving females, they are significantly less self-assured etc. as compared to male achievers.

Female Underachievers. Female underachievers show more concern over pressures (scale #3) which tend to intensify negative reactions in the home - divorce, separation, illness, financial problems, tragedy and parent-youth strife - than do male underachievers. These female underachievers are more concerned than their male counterparts over their lack of self-confidence (scale #5). They are less apt to run the risk of making mistakes and exposing themselves to ridicule and more apt to be self-conscious and uneasy in group situations than are the male underachievers.

Ninth Grade Achievers. Ninth grade achievers are more concerned over the emotional climate in the home (scale #1) than are twelfth grade achievers. They worry over the cohesiveness within the family and among its members, the consideration and understanding they show one another and the quality of the interaction between parents and children as measured by this scale. The grade nine achievers are also more concerned than their twelfth grade counterparts about their lack of self-confidence (scale #5). These younger achievers feel more uncertain about themselves, are more afraid of making mistakes and exposing themselves to ridicule, less certain of themselves in group situations, more self-conscious and overly eager to please than are the twelfth grade achievers. They are also more concerned about classroom relationships (scale #8), exhibit signs of loneliness and fear of being left out of the "in" group and less independent than are the older achievers.

Twelfth Grade Achievers. Twelfth grade achievers are less concerned over the emotional climate in the home (scale #1) than are ninth grade achievers and twelfth grade underachievers. They worry less about such family problems as lack of cohesiveness, family misunderstanding and lack of consideration, and poor parent-child interaction. These older achievers are also less concerned about a lack of self confidence (scale #5) than are ninth grade achievers and twelfth grade underachievers. They are more sure of themselves, ready to risk making mistakes, more confident in group situations and generally less self-conscious than are the younger achievers. Twelfth grade achievers are considerably less concerned about classroom relationships (scale #8), being accepted by teachers and classmates, exhibit less loneliness and fear of being left out of the crowd than do ninth grade achievers. The pressure to be "one of the crowd" which sometimes leads to a conformity to the status quo and a willingness to acquiesce to the group rather than risk being considered a non-member is felt less severely by the twelfth grade achievers than by the ninth grade achievers. Twelfth grade achievers are less concerned than twelfth grade underachievers about academic problems (scale #6) such as grades, inability to concentrate and not living up to their ideal performance, and are more humanistic in their approach to religion (scale #21) than their underachieving counterparts.

Ninth Grade Underachievers. Ninth grade underachievers as a group do not project a particular profile as to their concerns, values and beliefs. They are more humanistic in their approach to religion as measured by biblical concepts (scale #21) than are the

twelfth grade underachievers.

Twelfth Grade Underachievers. Twelfth grade underachievers are significantly more concerned about the problems involved in the lack of family unity (scale #1) than are the twelfth grade achievers. They evidently suffer more from lack of understanding among family members and the quality of interaction between parents and children than do their achieving classmates. The underachieving twelfth graders are more concerned about lack of self-confidence (scale #5), risk - taking, fear of making mistakes, uncomfortableness in group situations, etc. than are twelfth grade achievers. These grade twelve under-achievers are also more concerned about their school work (scale #6), their grades and generally poor scholastic performance than are the twelfth grade achievers. Finally, these underachieving seniors have a more particularistic, dogmatic approach to religion (scale #21) in contrast to the more generalized humanistic approach of either the twelfth grade achievers and ninth grade underachievers.

Ninth Grade Males. The ninth grade males are more concerned about what is happening within the nation and the world (scale #9) than are the twelfth grade males. They show a greater fear of pollution, nuclear holocaust, violence, war, disorder and lawlessness than the older boys. However, they show less openmindedness, sensitivity and compassion towards minority groups (scale #19) than either the grade twelve boys or the grade nine girls.

Twelfth Grade Males. The twelfth grade males are less concerned over possible world tragedies such as nuclear war, violence, etc. (scale #9) than either the ninth grade boys or twelfth grade girls. They are less sure of making their own decisions, controlling

their own behaviour and resisting outside pressures (scale #12) than are the twelfth grade girls. The senior boys are less involved in social action (scale #17) that is, in actually doing things for those who need help, than are the senior girls. They are, however, more openminded, sensitive and compassionate towards the lesser esteemed groups in society than are the ninth grade males.

Ninth Grade Females. The ninth grade females are less involved in social action (scale #17), in giving practical expression to their concern for other persons in their society than twelfth grade girls. These junior girls are less sensitive, compassionate, etc. (scale #19) towards minorities than are twelfth grade girls, but more sensitive, compassionate, etc., than ninth grade males.

Twelfth Grade Females. The twelfth grade females are more concerned over war, violence, disorder, lawlessness, injustice and lack of government understanding of people (scale #9) than are twelfth grade males. They also feel freer to make their own decisions, more in control of their own lives and more capable of moving towards their life goals (scale #12) than are the senior boys. They value involvement in social action (scale #17) more than either the senior boys or junior girls. They show better understanding of the less fortunate groups in society (scale #19) and a greater acceptance of them as equals before God.

Implications

As we expected, the greatest difference between achievers and underachievers was in regard to academic problems. This is perhaps an indication that underachievers are crying out for more meaningfulness in the curriculum and in the total educational experience. It may mean that the underachiever is underachieving because he sees little relation between what he considers important and personal to him and the curriculum of the school. The idealistic adolescent probably has great difficulty in recognizing the importance of studying ancient history when he is engrossed in personal issues and establishing himself in relation to these issues. He sees little relationship between the past and present and, perhaps, the reason for this is that the school system has not made these relationships clear. Muuss (1975) pointed this out and indicated that the adolescent's choice of courses is limited and he has little, if anything, to say about curriculum. Therefore, the bright students' underachievement might be his way of rebelling against a system that he feels does not serve his needs. Of the many forms that rebelliousness can take, underachievement (Sebald, 1977) is probably the most subtle and is rarely recognized for what it is either by students, parents or teachers. Sebald (1977) points out that by the time the rebellious undercurrent is recognized, it may be too late to remedy the situation and, what is commonly called laziness, lack of will power or poor attitude might indeed be a student's way of rebelling against a system he feels is irrelevant. He may be expressing his inner unhappiness and discontent with the educational system quite unconsciously (Muuss, 1975) by this underachievement but it would seem

the rebellion is there. Phenix (1965) called for new perspectives in the curriculum when he said:

Everybody must come to terms in some fashion with the whole sweep of human concerns. Every citizen, every parent, every teacher and administrator must make decisions about what shall be taught in homes, schools, churches, industry, and community. Everyone must somehow put together his convictions about such matters as knowledge, the mass media, art, manners, work, play, nature, health, sex, class, race, economics, politics, international relations, and religion into a pattern for the formation of character through the curriculum. (p. 16)

The implication here is that the curriculum itself may need to be re-constructed so as to reflect topics which might be more relevant to this type of student. Muuss (1975) suggests that topics such as human development, sociology, interpersonal relations, consumer economics, social organization, career opportunities in the future, ecology, sex roles and a study of values could aid in making the curriculum more practical. It would be considered necessary that such topics be presented in depth to ensure their "academic respectability" and personal meaningfulness. Resentfulness, if indeed underachievement may be seen in this sense, may reflect the idea that the structure of the school, the curriculum, schedules, grades etc. are not helping them in the areas they consider most important - self-evaluation and definition - with all that these imply by way of questioning and challenging the existing system of values within the educational system, Sebald (1977) stresses this same concern about the curriculum but views it in a slightly different way. He states that the school subjects, as well as the methods of teaching them, may be blamed for low achievement, because, with youth's intensely pragmatic philosophy, they tend to equate schooling with barter value in the market place and most highschool subjects do not

fill this criterion. Therefore, he contends that the highschool curriculum should contain a larger percentage of more meaningful courses. This does not mean these young people should have full control of what they should be taught. There should be a good balance between required courses and electives to avoid extremes in either direction. If these underachievers are given a balanced mix of choice courses and obligatory courses, they will probably learn more and do so in a happier way than if they either made all their own choices or were obliged to follow completely designated courses.

The underachiever is made (Sebald, 1977) not born. There is obviously need for strong guidance and counselling programs if bright underachievers are to be helped. Present programs in this area should be expanded to reach more students without losing the focus on individual counselling. By attempting to reach more students through group guidance and group counselling, school counsellors ought to be able to aid in the early identification of underachievers and in providing practical help for them. This help may take the form of short courses in study skills, counselling in self-concept, or values identification with students who are underachieving and, perhaps, rebelling, aid in selection of courses that will be of interest to the student at present, and worthwhile for his post-school plans and direction for obtaining help in areas where he is experiencing academic and/or personal difficulties.

The guidance and counselling efforts of the school might also be directed towards aiding the underachievers in the development of a personal value system. The underachiever will be increasingly confronted with decision - making situations which are made especially

difficult because of conflicting values presented to him. Because of this choice conflict, the underachiever especially experiences anxiety. To help the underachiever in such a dilemma, the counsellors and teachers should make a concerted effort with these students to train them to consider wisely and reflect seriously on the decisions they make and the consequences of such decisions for the future. Stated very simply, a bright student who decides he is not going to study, for example, must consider also the consequences of his decision - failure, lack of personal achievement and fulfillment, rejection for some kinds of post-secondary training, unhappiness etc. The underachiever must be taught how to reason, not what to think. From an educational point of view, then, the underachiever needs to be encouraged to develop independence and responsibility by setting his goals and choosing an adequate method of reaching things so that the ability he possesses will be used to his best advantage. Nothing distinguishes the achiever from the underachiever more clearly (Roger, 1969) than his drive to succeed or academic motivation. Torrana (1962) points out that guidance and counselling services could usefully focus on increasing educational motivation among superior pupils. If education is concerned with the actualizing of individual potentialities, then, special attention to underachieving bright students is more than warranted. Havighurst (1962) says a sound argument can be made for the school counsellor's devoting more of his time to this kind of developmental program than to the remediation of problem cases or the support of the educationally handicapped and the delinquent. Both kinds of services are desirable but perhaps, there has been an over-emphasis on the counsellor's obligations to the

educationally handicapped to the serious neglect of his work with the superior student with low academic motivation.

Another implication from this research is very important, if indirect, to the underachiever. This is the training of the teachers. Spranger (1955) pointed out that the same objective experience of reality does not appear as such to different people but, rather, depends upon subjective factors such as past experience and emotional involvement. Therefore, a teacher must know the student as a person in order to understand his behavior in a situation. If a teacher tries to understand why an underachiever is not performing up to his potential, he ought to try to understand the person and that person's subjective perception of school, and not simply analyze the situation from the school's point of view. The implication here is that teachers should be well trained for the demanding task of understanding the psyche of the young. Teachers must be concerned (Huss, 1975) with underachiever's concept of what constitutes educational values if the young person is to be helped in making his choice of subjects and expressing his ideas on the curriculum in a constructive way.

In discussing family life education, Eleanore Luckey (1967) makes some suggestions for teacher preparation that would seem applicable for the present situation. Perhaps teachers who are dealing with adolescents no matter what their particular teaching field is, should be broadly trained in topics pertinent to this age group. This might be done through courses in human growth and development, adolescent psychology, interpersonal relationships, values clarification, etc. Since teachers would be dealing with youth in the

formation of attitudes and values, preparation in ethics, morals and values education should be included as a part of teacher training. The implication here is that institutions involved in teacher training may have to create new courses or revise present ones in order to provide teacher training adequate to aid youth in the development of an adequate value system.

Along with the differences between the major group of achievers and underachievers and the implications drawn from them there were differences among and between subgroups. The most pronounced difference was between male students and female students.

Emerging throughout the results of the research have been indications that the female subjects have a less healthy self-image than their male counterparts. This observation seems to cut across achievement and grade level factors. Female, whether achievers or underachievers, ninth or twelfth graders, reflect a mode of thinking and feeling that shows they are uncertain about themselves, afraid of making mistakes, overly self-conscious, uneasy in group situations and too anxious to please others. They are also self-critical both with respect to what they have done and what they have failed to do, that is, of not living up to the ideals they have set for themselves and this self-criticism further undermines their self-confidence (Strommen and Gupta, 1972). The girls also indicate that they have a relatively low estimation of themselves as persons of worth and promise when compared with male subjects.

The implication here is that in regard to self-concept formation, administrators, teachers and counsellors ought to be especially concerned with the kind of educational efforts being made

for the female population of the school. Counsellors (Matthews, 1963) should provide a setting in which a girl may freely examine her inner feelings and needs and learn to respect herself as a person and as a decision-making individual. Counsellors should make themselves knowledgeable in the developmental tasks which female adolescents face at this stage of development especially in the area of self-concept and personal identity. This would mean helping female students to realize that as young women they are as important as the young men in the school community, that they are special people with a special kind of contribution to make in life. The counsellor should be prepared to deal with the shift in energies by the older girls especially from career-directed goals to marriage-directed goals and to prepare students for these changes. Of special importance for the counsellor to realize is that there are all kinds of life patterns and value systems and girls will choose a variety of combinations of values. This is particularly true when it comes to decision-making in the area of career choice, and, thus, Counsellors should avoid cultural biases that might discourage girls from striving towards professions considered by some to be male preserves. Moreover, counsellors should be able to identify poor attitudes which might indicate unhealthy or neurotic symptoms in girls' behavior and value systems which might require psychological help. Counsellors should allot time within the framework of their counselling with female students in the area of self-regard to aid this kind of identification and/or to help girls affirm their sense of personal worth and promise and increase self-confidence and self-esteem in themselves.

For school personnel who wish to assist the bright under-achievers to develop a value system which would include academic achievement commensurate with their ability, the task is clear but not easy.

There must be competency in teaching and counselling skills both with individuals and groups by the teachers and counsellors respectively. But conveying information or giving advice is only part of the task with these students. Perhaps the more important part of the educational job to be done is in helping these students to formulate a value system which is appropriate for the development of themselves as persons of maturity and integrity and which will equip them to contribute positively to the community of which they are a part.

SUGGESTIONS FOR FURTHER RESEARCH

1. A comparison of the mean scores of the total group of subjects in this study and the mean scores of each of the achieving and non-achieving groups with the mean scores on the national sample might be made to ascertain how the value systems of the students in this study and of the achieving and the underachieving groups compare with the value system of the norming group.

2. An item analysis might be attempted on scales where the results were contrary to most of the research extant on differences between achievers and underachievers. It might be found that there was loading on one or two particular items in a scale. An item analysis would hopefully give further, more specific details about the particular concerns, values and beliefs which any one or more of the sub-groups included in this research may have.

3. After an identification of underachieving students, a study to ascertain effective method(s) of dealing with these underachievers could be suggested. The underachievers could be assigned randomly to three groups. A pre-test, post-test research is suggested using a values clarification program with one group, a group counselling program with a second group and the third group used as a control to ascertain over a certain period of time whether or not some of the difficulties under-achievers experience would be remedied, to what extent and by which method(s).

4. A similar type of research done with sex as the main variable to ascertain whether one type of treatment would be more efficacious with males or females is suggested. This might be particularly valuable in light of the fact that females seemed to have a more negative image of themselves than did the male.

5. An extension of the present research to include subjects from varying sized schools in different socio-economic milieus with a more cosmopolitan population is suggested to provide for results which would be generalizable.

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APPENDIX A

APPENDIX A

<u>ID</u>	<u>IQ</u>	<u>GRADE POINT</u>	<u>PRED. G.P.</u>	<u>DIFF'CE</u>	<u>DIFF/SD</u>
1	133.000	5.000	4.098	0.902	0.866
2	129.000	3.750	3.888	-0.138	-0.132
3	129.000	4.000	3.888	0.112	0.108
4	126.000	3.000	3.731	-0.731	-0.701
5	125.000	3.250	3.678	-0.428	-0.411
6	123.000	4.000	3.574	0.426	0.409
7	123.000	4.000	3.574	0.426	0.409
8	122.000	3.000	3.521	-0.521	-0.500
9	118.000	3.500	3.312	0.188	0.181
10	118.000	5.000	3.312	1.688	1.621
11	117.000	2.750	3.259	-0.509	-0.489
12	115.000	4.500	3.154	1.346	1.292
13	115.000	3.500	3.154	0.346	0.332
14	115.000	2.750	3.154	-0.404	-0.388
15	115.000	4.250	3.154	1.096	1.052
16	114.000	2.250	3.102	-0.852	-0.818
17	113.000	1.250	3.050	-1.800	-1.727
18	113.000	3.500	3.050	0.450	0.432
19	112.000	4.250	2.997	1.253	1.202
20	111.000	0.000	2.945	-2.945	-2.826
21	108.000	2.250	2.788	-0.538	-0.516
22	108.000	1.500	2.788	-1.288	-1.236
23	107.000	3.500	2.735	0.765	0.734
24	106.000	1.500	2.683	-1.183	-1.135
25	106.000	1.750	2.683	-0.933	-0.895
26	105.000	3.000	2.630	0.370	0.355
27	105.000	4.000	2.630	1.370	1.315
28	105.000	2.750	2.630	0.120	0.115
29	105.000	4.000	2.630	1.370	1.315
30	104.000	2.500	2.578	-0.078	-0.075
31	104.000	3.000	2.578	0.422	0.405
32	104.000	3.500	2.578	0.922	0.885
33	115.000	2.750	3.154	-0.404	-0.388
34	130.000	5.000	3.940	1.060	1.017
35	126.000	3.300	3.731	-0.431	-0.413
36	117.000	4.000	3.259	0.741	0.711
37	117.000	3.750	3.259	0.491	0.471
38	117.000	4.000	3.259	0.741	0.711
39	116.000	3.250	3.207	0.043	0.041
40	116.000	4.000	3.207	0.793	0.761
41	114.000	3.250	3.102	0.148	0.142
42	114.000	2.750	3.102	-0.352	-0.338
43	114.000	3.250	3.102	0.148	0.142
44	112.000	4.000	2.997	1.003	0.963
45	112.000	1.500	2.997	-1.497	-1.437
46	112.000	4.750	2.997	1.753	1.682
47	112.000	3.500	2.997	0.503	0.483
48	111.000	4.000	2.945	1.055	1.013
49	111.000	3.250	2.945	0.305	0.293
50	108.000	4.000	2.788	1.212	1.164

<u>ID</u>	<u>IQ</u>	<u>GRADE POINT</u>	<u>PRED. G.P.</u>	<u>DIFF'CE</u>	<u>DIFF/SD</u>
51	108.000	2.750	2.788	-0.038	-0.036
52	108.000	3.000	2.788	0.212	0.024
53	108.000	3.500	2.788	0.712	0.684
54	107.000	2.250	2.735	-0.485	-0.466
55	106.000	2.000	2.683	-0.683	-0.655
56	105.000	4.750	2.630	2.120	2.034
57	105.000	3.500	2.630	0.870	0.835
58	104.000	2.750	2.578	0.172	0.165
59	104.000	2.750	2.578	0.172	0.165
60	104.000	3.500	2.578	0.922	0.885
61	136.000	3.500	4.255	-0.755	-0.724
62	136.000	4.000	4.255	-0.255	-0.245
63	125.000	3.750	3.678	0.072	0.069
64	124.000	1.750	3.626	-1.876	-1.801
65	122.000	4.000	3.521	0.479	0.460
66	121.000	4.000	3.469	0.531	0.510
67	121.000	4.500	3.469	1.031	0.990
68	120.000	3.750	3.416	0.334	0.320
69	118.000	3.000	3.312	-0.312	-0.299
70	118.000	1.250	3.312	-2.062	-1.979
71	117.000	2.750	3.259	-0.509	-0.489
72	117.000	3.500	3.259	0.241	0.231
73	115.000	4.250	3.154	1.096	1.052
74	114.000	3.500	3.102	0.398	0.382
75	114.000	2.750	3.102	-0.352	-0.338
76	114.000	2.500	3.102	-0.602	-0.578
77	114.000	2.750	3.102	-0.352	-0.338
78	113.000	3.250	3.050	0.200	0.192
79	113.000	2.750	3.050	-0.300	-0.288
80	113.000	3.750	3.050	0.700	0.672
81	113.000	4.250	3.050	1.200	1.152
82	112.000	3.500	2.997	0.503	0.483
83	112.000	0.500	2.997	-2.497	-2.397
84	111.000	2.500	2.945	-0.445	-0.427
85	111.000	2.250	2.945	-0.695	-0.667
86	111.000	1.750	2.945	-1.195	-1.147
87	109.000	3.000	2.840	0.160	0.154
88	109.000	4.000	2.840	1.160	1.113
89	108.000	2.000	2.788	-0.788	-0.756
90	108.000	2.500	2.788	-0.288	-0.276
91	107.000	2.250	2.735	-0.485	-0.466
92	107.000	0.250	2.735	-2.485	-2.385
93	106.000	4.750	2.638	2.067	1.984
94	106.000	1.000	2.638	-1.638	-1.615
95	104.000	2.500	2.578	-0.078	-0.075
96	104.000	1.000	2.578	-1.578	-1.515
97	104.000	3.500	2.578	0.922	0.885
98	104.000	1.500	2.578	-1.078	-1.035
99	104.000	1.250	2.578	-1.328	-1.275

<u>ID</u>	<u>IQ</u>	<u>GRADE POINT</u>	<u>PRED. G.P.</u>	<u>DIFF'CE</u>	<u>DIFF/SD</u>
100	104.000	2.000	2.578	-0.578	-0.555
101	104.000	2.250	2.578	-0.328	-0.315
102	104.000	2.500	2.578	-0.078	-0.075
103	104.000	3.750	2.578	1.172	1.125
104	103.000	2.500	2.526	-0.026	-0.025
105	103.000	1.250	2.526	-1.276	-1.224
106	103.000	0.750	2.526	-1.776	-1.704
107	103.000	2.500	2.526	-0.026	-0.025
108	103.000	1.500	2.526	-1.026	-0.984
109	103.000	2.000	2.526	-0.526	-0.504
110	103.000	1.250	2.526	-1.276	-1.224
111	102.000	2.000	2.473	-0.473	-0.454
112	102.000	2.250	2.473	-0.223	-0.214
113	102.000	3.750	2.473	1.277	1.226
114	102.000	3.000	2.473	0.527	0.506
115	102.000	2.500	2.473	0.027	0.026
116	133.000	3.500	4.098	-0.598	-0.574
117	124.000	4.250	3.626	0.624	0.599
118	123.000	3.500	3.574	-0.074	-0.071
119	123.000	4.750	3.574	1.176	1.129
120	120.000	3.250	3.416	-0.166	-0.160
121	120.000	3.500	3.416	0.084	0.080
122	118.000	1.000	3.312	-2.312	-2.219
123	115.000	2.750	3.154	-0.404	-0.388
124	115.000	3.000	3.154	-0.154	-0.148
125	114.000	2.000	3.102	-1.102	-1.058
126	114.000	2.250	3.102	-0.852	-0.818
127	114.000	4.250	3.102	1.148	1.102
128	113.000	3.250	3.050	0.200	0.192
129	112.000	3.500	2.997	0.503	0.483
130	112.000	2.500	2.997	-0.497	-0.477
131	111.000	4.250	2.945	1.305	1.253
132	111.000	3.000	2.945	0.055	0.053
133	111.000	3.000	2.945	0.055	0.053
134	109.000	4.000	2.840	1.160	1.113
135	108.000	1.500	2.788	-1.288	-1.236
136	108.000	1.750	2.788	-1.038	-0.996
137	108.000	3.500	2.788	0.712	0.684
138	107.000	2.250	2.735	-0.485	-0.466
139	107.000	4.500	2.735	1.765	1.694
140	106.000	2.250	2.683	-0.433	-0.415
141	106.000	2.500	2.683	-0.183	-0.175
142	106.000	2.750	2.683	0.067	0.064
143	106.000	3.500	2.683	0.817	0.784
144	105.000	3.000	2.630	0.370	0.355
145	105.000	3.750	2.630	1.120	1.075
146	105.000	2.750	2.630	0.120	0.115
147	105.000	2.750	2.630	0.120	0.115
148	104.000	2.500	2.578	-0.078	-0.075

<u>ID</u>	<u>IQ</u>	<u>GRADE POINT</u>	<u>PRED. G.P.</u>	<u>DIFF'CE</u>	<u>DIFF/SD</u>
149	104.000	1.000	2.578	-1.578	-1.515
150	104.000	4.750	2.578	2.172	2.085
151	104.000	1.250	2.578	-1.328	-1.275
152	103.000	2.750	2.526	0.224	0.215
153	103.000	3.000	2.526	0.474	0.455
154	103.000	3.250	2.526	0.724	0.695
155	103.000	3.250	2.526	0.724	0.695
156	102.000	3.250	2.473	0.777	0.746
157	102.000	1.500	2.473	-0.973	-0.934
158	102.000	1.500	2.473	-0.973	-0.934
159	102.000	2.500	2.473	0.027	0.026
160	102.000	3.500	2.473	1.027	0.986

Determination of Achievers and Underachievers
Simple Linear Equations

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